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Solution Manual

Intermediate Accounting

Volume 1

IFRS EDITION

CHAPTER 1

Financial Reporting and Accounting Standards

ASSIGNMENT CLASSIFICATION TABLE

| Topics | Questions | Cases |
|---------------------------------------------------------------------|------------------------------------------------------|------------|
| 1. Global markets. | 1 | |
| 2. Environment of accounting. | 2, 3, 4 | 4, 5, 7 |
| 3. Objective of financial reporting. | 5, 6, 7, 8, 9, 10 | 2 |
| 4. Standard-setting organizations. | 11, 12, 13, 14, 15, 16, 17, 18 | 1, 3, 6 |
| 5. Financial reporting challenges. | 19, 20, 21, 22, 23, 24, 25 | 8, 9, 10 |
| 6. Ethical issues. | 26 | 11, 12, 16 |
| *7. Authoritative U.S. pronouncements and policy-setting bodies. | 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38 | 13, 14, 15 |

*These questions and cases address material in the appendix to the chapter.

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|---------|------------------------------------------------|---------------------|----------------|
| CA1-1 | IFRS and standard-setting. | Simple | 5–10 |
| CA1-2 | IFRS and standard-setting. | Simple | 5–10 |
| CA1-3 | Financial reporting and accounting standards. | Simple | 15–20 |
| CA1-4 | Financial accounting. | Simple | 15–20 |
| CA1-5 | Need for IASB. | Simple | 15–20 |
| CA1-6 | IASB role in standard-setting. | Simple | 15–20 |
| CA1-7 | Accounting numbers and the environment. | Simple | 10–15 |
| CA1-8 | Politicalization of IFRS. | Complex | 15–20 |
| CA1-9 | Models for setting IFRS. | Simple | 10–15 |
| CA1-10 | Economic consequences. | Moderate | 25–35 |
| CA1-11 | Rule-making Issues. | Complex | 20–25 |
| CA1-12 | Financial reporting pressures. | Moderate | 25–35 |
| *CA1-13 | GAAP terminology. | Moderate | 20–30 |
| *CA1-14 | Accounting organizations and documents issued. | Simple | 3–5 |
| *CA1-15 | Accounting pronouncements. | Simple | 5–7 |
| CA1-16 | GAAP and economic consequences. | Moderate | 25–35 |

ANSWERS TO QUESTIONS

1. World markets are becoming increasingly intertwined. The tremendous variety and volume of both exported and imported goods indicates the extensive involvement in international trade. As a result, the move towards adoption of international financial reporting standards has and will continue in the future.
2. Financial accounting measures, classifies, and summarizes in report form those activities and that information which relate to the enterprise as a whole for use by parties both internal and external to a business enterprise. Managerial accounting also measures, classifies, and summarizes in report form enterprise activities, but the communication is for the use of internal, managerial parties, and relates more to subsystems of the entity. Managerial accounting is management decision oriented and directed more toward product line, division, and profit center reporting.
3. Financial statements generally refer to the four basic financial statements: statement of financial position, income statement, statement of cash flows, and statement of changes in equity. Financial reporting is a broader concept; it includes the basic financial statements and any other means of communicating financial and economic data to interested external parties.
4. If a company's financial performance is measured accurately, fairly, and on a timely basis, the right managers and companies are able to attract investment capital. To provide unreliable and irrelevant information leads to poor capital allocation which adversely affects the securities market.
5. The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to present and potential equity investors, lenders, and other creditors in making decisions in their capacity as capital providers.
6. General purpose financial statements provide financial reporting information to a wide variety of users. To be cost effective in providing this information, general purpose financial statements provide at the least cost the most useful information possible.
7. Shareholders, creditors, suppliers, employees, and regulators all use general purpose financial statements. The primary user group is capital providers (shareholders and creditors).
8. The proprietary perspective is not considered appropriate because this perspective generally does not reflect a realistic view of the financial reporting environment. Instead the entity perspective is adopted which is consistent with the present business environment where most companies engaged in financial reporting have substance distinct from their investors.
9. The objective of financial reporting is primarily to provide information to investors interested in assessing the company's ability to generate net cash inflows and management's ability to protect and enhance the capital providers' investments. Financial reporting should help investors assess the amounts, timing and uncertainty of prospective cash inflows.
10. A single set of high quality accounting standards ensures adequate comparability. Investors are able to make better investment decisions if they receive financial information from a U.S. company that is comparable to an international competitor.
11. The two organizations involved in international standard-setting are IOSCO (International Organization of Securities Commissions) and the IASB (International Accounting Standards Board.) The IOSCO does not set accounting standards, but ensures that the global markets can operate in an efficient and effective manner. Conversely, the IASB's mission is to develop a single set of high quality, understandable and international financial reporting standards (IFRSs) for general purpose financial statements.

Questions Chapter 1 (Continued)

12. The Financial Accounting standards Board (FASB) is an independent organization whose mission is to establish and improve standards of financial accounting and reporting for U.S. companies.
13. The purpose of the IOSCO is to facilitate cross-border cooperation, reduce global systemic risk, protect investors, and ensure fair and efficient securities markets.
14. The mission of the IASB is to develop, in the public interest, a single set of high quality, understandable and international financial reporting standards (IFRSs) for general purpose financial statements.
15. The IASB preliminary views are based on research and analysis conducted by the IASB staff. IASB exposure drafts are issued after the Board evaluates research and public response to preliminary views. IASB standards are issued after the Board evaluates responses to the exposure draft.
16. IASB standards are financial accounting standards issued by the IASB and are referred to as International Financial Reporting Standards (IFRS). The IASB Framework for financial reporting sets forth fundamental objectives and concepts that the Board uses in developing future standards of financial reporting. The intent of the Framework is to form a cohesive set of interrelated concepts that will serve as tools for solving existing and emerging problems in a consistent manner.
17. International Financial Reporting Standards are the most authoritative, followed by International Financial Reporting Interpretations then the IASB framework.
18. The International Financial Reporting Interpretations Committee (IFRIC) applies a principles-based approach in providing interpretative guidance. The IFRIC issues interpretations that cover newly identified financial reporting issues not specifically dealt with in IFRS, and issues where conflicting interpretations have developed, or seem likely to develop in the absence of authoritative guidance.
19. Some major challenges facing the accounting profession relate to the following items:
 - Nonfinancial measurement—how to report significant key performance measurements such as customer satisfaction indexes, backlog information and reject rates on goods purchased.
 - Forward-looking information—how to report more future oriented information.
 - Soft assets—how to report on intangible assets, such as market know-how, market dominance, and well-trained employees.
 - Timeliness—how to report more real-time information.
20. The sources of pressure are innumerable, but the most intense and continuous pressure to change or influence the development of IFRS come from individual companies, industry associations, governmental agencies, practicing accountants, academicians, professional accounting organizations, and investing public.

Questions Chapter 1 (Continued)

- 21.** IFRS are considered principles-based accounting. These standards provide more general guidance by starting with broad objectives, outcomes, and principles without providing detailed guidance. U.S. GAAP (referred to as rules-based accounting) is based on the assumption that management needs detailed accounting guidance to ensure that the transaction is reported consistently and appropriately.
- 22.** Economic consequences means the impact of accounting reports on the wealth positions of issuers and users of financial information and the decision-making behavior resulting from that impact. In other words, accounting information impacts various users in many different ways which leads to wealth transfers among these various groups.

If politics plays an important role in the development of accounting rules, the rules will be subject to manipulation for the purpose of furthering whatever policy prevails at the moment. No matter how well intentioned the rule maker may be, if information is designed to indicate that investing in a particular enterprise involves less risk than it actually does, or is designed to encourage investment in a particular segment of the economy, financial reporting will suffer an irreplaceable loss of credibility.

- 23.** No one particular proposal is expected in answer to this question. The students' proposals, however, should be defensible relative to the following criteria:
- (1) The method must be efficient, responsive, and expeditious.
 - (2) The method must be free of bias and be above or insulated from pressure groups.
 - (3) The method must command widespread support if it does not have legislative authority.
 - (4) The method must produce sound yet practical accounting principles or standards.

The students' proposals might take the form of alterations of the existing methodology, an accounting court (as proposed by Leonard Spacek), or governmental device.

- 24.** Concern exists about fraudulent financial reporting because it can undermine the entire financial reporting process. Failure to provide information to users that is accurate can lead to inappropriate allocations of resources in our economy. In addition, failure to detect massive fraud can lead to additional governmental oversight of the accounting profession.
- 25.** The expectations gap is the difference between what people think accountants should be doing and what accountants think they can do. It is a difficult gap to close. The accounting profession recognizes it must play an important role in narrowing this gap. To meet the needs of society, the profession is continuing its efforts in developing accounting standards, such as numerous pronouncements issued by the IASB, to serve as guidelines for recording and processing business transactions in the changing economic environment.
- 26.** Accountants must perceive the moral dimensions of some situations because IFRS does not define or cover all specific features that are to be reported in financial statements. In these instances accountants must choose among alternatives. These accounting choices influence whether particular stakeholders may be harmed or benefited. Moral decision-making involves awareness of potential harm or benefit and taking responsibility for the choices.
- *27.** The purpose of the Securities and Exchange Commission (SEC) is to help develop and standardize financial information presented to stockholders. The SEC has broad powers to prescribe the accounting practices and standards to be employed by companies within its jurisdiction.
- *28.** The Financial Accounting Standards Board's (FASB) mission is to establish and improve standards of financial accounting and reporting for the guidance of the public, including issuers, auditors, and users of financial information.

Questions Chapter 1 (Continued)

- *29. Accounting Research Bulletins** were pronouncements on accounting practice issued by the Committee on Accounting Procedure between 1939 and 1959; since 1964 they have been recognized as accepted accounting practice unless superseded in part or in whole by an opinion of the APB or an FASB standard. **APB Opinions** were issued by the Accounting Principles Board during the years 1959 through 1973 and, unless superseded by FASB Statements, are recognized as accepted practice and constitute the requirements to be followed by all business enterprises. **FASB Statements** are pronouncements of the Financial Accounting Standards Board and currently represent the accounting profession's authoritative pronouncements on financial accounting and reporting practices.
- *30.** The explanation should note that generally accepted accounting principles or standards have "substantial authoritative support." They consist of accounting practices, procedures, theories, concepts, and methods which are recognized by a large majority of practicing accountants as well as other members of the business and financial community. Bulletins issued by the Committee on Accounting Procedure, opinions rendered by the Accounting Principles Board, and statements issued by the Financial Accounting Standards Board constitute "substantial authoritative support."
- *31.** It was believed that FASB Statements would carry greater weight than APB Opinions because of significant differences between the FASB and the APB, namely: (1) The FASB has a smaller membership of full-time compensated members; (2) the FASB has greater autonomy and increased independence; and (3) the FASB has broader representation than the APB.
- *32.** The technical staff of the FASB conducts research on an identified accounting topic and prepares a "preliminary views" that is released by the Board for public reaction. The Board analyzes and evaluates the public response to the preliminary views, deliberates on the issues, and issues an "exposure draft" for public comment. The preliminary views merely presents all facts and alternatives related to a specific topic or problem, whereas the exposure draft is a tentative "statement." After studying the public's reaction to the exposure draft, the Board may reevaluate its position, revise the draft, and vote on the issuance of a final statement.
- *33.** Statements of financial accounting **standards** constitute generally accepted accounting principles and dictate acceptable financial accounting and reporting practices as promulgated by the FASB. The first standards statement was issued by the FASB in 1973.
- Statements of financial accounting **concepts** do not establish generally accepted accounting principles. Rather, the concepts statements set forth fundamental objectives and concepts that the FASB intends to use as a basis for developing future standards. The concepts serve as guidelines in solving existing and emerging accounting problems in a consistent, sound manner. Both the standards statements and the concepts statements may develop through the same process from discussion memorandum, to exposure draft, to a final approved statement.
- *34.** Rule 203 of the Code of Professional Conduct prohibits a member of the AICPA from expressing an opinion that financial statements conform with GAAP if those statements contain a material departure from an accounting principle promulgated by the FASB, or its predecessors, the APB and the CAP, unless the member can demonstrate that because of unusual circumstances the financial statements would otherwise have been misleading. Failure to follow Rule 203 can lead to a loss of a CPA's license to practice. This rule is extremely important because it requires auditors to follow FASB standards.

Questions Chapter 1 (Continued)

- *35. The accounting Standards Codification (or more simply, (the Codification) provides in one place all the authoritative literature related to a particular topic. The Codification does not include nonessential information such as redundant document summaries, basis for conclusions sections, and historical content. It comprises all literature that is considered authoritative; all other accounting literature is considered non-authoritative.
- *36. The chairman of the FASB was indicating that too much attention is put on the bottom line and not enough on the development of quality products. Managers should be less concerned with short-term results and be more concerned with the long-term results. In addition, short-term tax benefits often lead to long-term problems.

The second part of his comment relates to accountants being overly concerned with following a set of rules, so that if litigation ensues, they will be able to argue that they followed the rules exactly. The problem with this approach is that accountants want more and more rules with less reliance on professional judgment. Less professional judgment leads to inappropriate use of accounting procedures in difficult situations.

In the accountants' defense, recent legal decisions have imposed vast new liability on accountants. The concept of accountant's liability that has emerged in these cases is broad and expansive; the number of classes of people to whom the accountant is held responsible are almost limitless.

- *37. FASB Staff Positions (FSP) are used to provide interpretive guidance and to make minor amendments to existing standards. The due process used to issue a FSP is the same used to issue a new standard.
- *38. The Emerging Issues Task Force often arrives at consensus conclusions on certain financial reporting issues. These consensus conclusions are then looked upon as GAAP by practitioners because the SEC has indicated that it will view consensus solutions as preferred accounting and will require persuasive justification for departing from them. Thus, at least for public companies which are subject to SEC oversight, consensus solutions developed by the Emerging Issues Task Force are followed unless subsequently overturned by the FASB. It should be noted that the FASB took greater direct ownership of GAAP established by the EITF by requiring that consensus positions be ratified by the FASB.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 1-1 (Time 5–10 minutes)

Purpose—to provide the student with an opportunity to answer questions about IFRS and standard setting.

CA 1-2 (Time 5–10 minutes)

Purpose—to provide the student with an opportunity to answer questions about IFRS and standard setting.

CA 1-3 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to answer questions about IFRS and standard setting.

CA 1-4 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to distinguish between financial accounting and managerial accounting, identify major financial statements, and differentiate financial statements and financial reporting.

CA 1-5 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to evaluate the viewpoint of removing mandatory accounting rules and allowing each company to voluntarily disclose the information it desired.

CA 1-6 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to identify the sponsoring organization of the IASB, the method by which the IASB arrives at a decision, and the types and the purposes of documents issued by the IASB.

CA 1-7 (Time 10–15 minutes)

Purpose—to provide the student with an opportunity to describe how reported accounting numbers might affect an individual's perceptions and actions.

CA 1-8 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to focus on the types of organizations involved in the rule making process, what impact accounting has on the environment, and the environment's influence on accounting.

CA 1-9 (Time 10–15 minutes)

Purpose—to provide the student with an opportunity to focus on what type of rule-making environment exists. In addition, this CA explores why user groups are interested in the nature of IFRS and why some groups wish to issue their own rules.

CA 1-10 (Time 25–35 minutes)

Purpose—to provide the student with the opportunity to discuss the role of government officials in accounting rule-making.

CA 1-11 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to consider the ethical dimensions of implementation of a new accounting pronouncement.

CA 1-12 (Time 25–35 minutes)

Purpose—to provide the student with a writing assignment concerning the ethical issues related to meeting earnings targets.

Time and Purpose of Concepts for Analysis (Continued)

***CA 1-13** (Time 20–30 minutes)

Purpose—to provide the student with an opportunity to identify and define acronyms appearing in the first chapter. Some are self-evident, others are not so.

***CA 1-14** (Time 3–5 minutes)

Purpose—to provide the student with an opportunity to identify the various documents issued by different accounting organizations. This CA should help the student to better focus on the more important documents issued in the financial reporting area.

***CA 1-15** (Time 5–7 minutes)

Purpose—to provide the student with an opportunity to match the descriptions of a number of authoritative pronouncements issued by rule-making bodies to the pronouncements.

CA 1-16 (Time 25–35 minutes)

Purpose—to provide the student with an opportunity to comment on a letter sent by business executives to the FASB and Congress on the accounting for derivatives.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 1-1

1. True.
2. False. Any company claiming compliance with IFRS must comply with all standards and interpretations, including disclosure requirements.
3. False. The SEC is the governmental body that has influence over the FASB, not the IASB.
4. True.
5. False. The IASB has no government mandate and does follow a due process in issuing IFRS.

CA 1-2

1. False. In general, the IASB uses a principles-based approach to standard setting while the FASB uses rules-based approach.
2. False. The objective emphasizes an entity perspective.
3. False. The objective of financial reporting is to provide financial information about the reporting entity that is useful to present and potential equity investors, lenders, and other creditors in making decisions in their capacity as capital providers.
4. False. International Accounting Standards were issued by the International Accounting Standards Committee while International Financial Reporting Standards are issued by the IASB.
5. True.

CA 1-3

1. (c); 2. (d); 3. (b); 4. (d); 5. (b); 6. (a); 7. (a); 8. (b); 9. (d); 10. (b).

CA 1-4

- (a) Financial accounting is the process that culminates in the preparation of financial reports relative to the enterprise as a whole for use by parties both internal and external to the enterprise. In contrast, managerial accounting is the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of financial information used by the management to plan, evaluate, and control within an organization and to assure appropriate use of, and accountability for, its resources.
- (b) The financial statements most frequently provided are the statement of financial position, the income statement, the statement of cash flows, and the statement of changes in equity.

CA 1-4 (Continued)

- (c) Financial statements are the principal means through which financial information is communicated to those outside an enterprise. As indicated in (b), there are four major financial statements. However, some financial information is better provided, or can be provided only, by means of financial reporting other than formal financial statements. Financial reporting (other than financial statements and related notes) may take various forms. Examples include the company president's letter or supplementary schedules in the corporate annual reports, prospectuses, reports filed with government agencies, news releases, management's forecasts, and descriptions of an enterprise's social or environmental impact.

CA 1-5

It is not appropriate to abandon mandatory accounting rules and allow each company to voluntarily disclose the type of information it considered important. Without a coherent body of accounting theory and standards, each accountant or enterprise would have to develop its own theory structure and set of practices, and readers of financial statements would have to familiarize themselves with every company's peculiar accounting and reporting practices. As a result, it would be almost impossible to prepare statements that could be compared.

In addition, voluntary disclosure may not be an efficient way of disseminating information. A company is likely to disclose less information if it has the discretion to do so. Thus, the company can reduce its cost of assembling and disseminating information. However, an investor wishing additional information has to pay to receive additional information desired. Different investors may be interested in different types of information. Since the company may not be equipped to provide the requested information, it would have to spend additional resources to fulfill such needs; or the company may refuse to furnish such information if it's too costly to do so. As a result, investors may not get the desired information or they may have to pay a significant amount of money for it. Furthermore, redundancy in gathering and distributing information occurs when different investors ask for the same information at different points in time. To the society as a whole, this would not be an efficient way of utilizing resources.

CA 1-6

- (a) The International Accounting Standards Committee Foundation (IASCF) is the sponsoring organization of the IASB. The IASCF selects the members of the IASB and the Advisory Council, funds their activities, and generally oversees the IASB's activities.

The IASB follows a due process in establishing a typical IASB International Financial Reporting Standard. The following steps are usually taken: (1) A topic or project is identified and placed on the Board's agenda. (2) Research and analysis are conducted by the IASB and a preliminary views document is drafted and released. (3) A public hearing is often held. (4) The Board analyzes and evaluates the public response and issues an exposure draft. (5) The Board studies the exposure draft in relation to the public responses, revises the draft if necessary, gives the revised draft final consideration and votes on issuance of an IFRS. The passage of a new accounting standard in the form of an IASB Standard requires the support of nine of the fourteen Board members.

- (b) The IASB issues three major types of pronouncements: International financial reporting standards, Framework for financial reporting, and International financial reporting interpretations. Financial accounting standards issued by the IASB are preferred to as International Financial Reporting Standards (IFRS).

CA 1-6 (Continued)

The International Accounting Standards Committee (IASB predecessor) issued a document entitled “Framework for the Preparation and Presentation of Financial Statements.” This framework sets forth fundamental objectives and concepts that the Board uses in developing future standards of financial reporting. The intent of the document is to form a cohesive set of interrelated concepts, a conceptual framework, that will serve as tools for solving existing and emerging problems in a consistent manner.

Interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC) are also considered authoritative and cover (1) newly identified financial reporting issues not specifically dealt with in IFRS, and (2) issues where unsatisfactory or conflicting interpretations have developed, or seem likely to develop in the absence of authoritative guidance.

IFRIC can address controversial accounting problems as they arise. It determines whether it can quickly resolve them, or whether to involve the IASB in solving them. The IASB will hopefully work on more pervasive long-term problems, while the IFRIC deals with short-term emerging issues.

CA 1-7

Accounting numbers affect investing decisions. Investors, for example, use the financial statements of different companies to enhance their understanding of each company’s financial strength and operating results. Because these statements follow international accounting standards, investors can make meaningful comparisons of different financial statements to assist their investment decisions.

Accounting numbers also influence creditors’ decisions. A commercial bank usually looks into a company’s financial statements and past credit history before deciding whether to grant a loan and in what amount. The financial statements provide a fair picture of the company’s financial strength (for example, short-term liquidity and long-term solvency) and operating performance for the current period and over a period of time. The information is essential for the bank to ensure that the loan is safe and sound.

CA 1-8

(a) Arguments for politicalization of the accounting standard-setting process:

1. Accounting depends in large part on public confidence for its success. Consequently, the critical issues are not solely technical, so all those having a bona fide interest in the output of accounting should have some influence on that output.
2. There are numerous conflicts between the various interest groups. In the face of this, compromise is necessary, particularly since the critical issues in accounting are value judgments, not the type which are solvable, as we have traditionally assumed, using deterministic models. Only in this way (reasonable compromise) will the financial community have confidence in the fairness and objectivity of accounting standard-setting.
3. Over the years, accountants have been unable to establish, on the basis of technical accounting elements, standards which would bring about the desired uniformity and acceptability. This inability itself indicates standard-setting is primarily consensual in nature.
4. The public accounting profession made rules which business enterprises and individuals “had” to follow. For many years, these businesses and individuals had little say as to what the standards would be, in spite of the fact that their economic well-being was influenced to a substantial degree by those standards. It is only natural that they would try to influence or control the factors that determine their economic well-being.

CA 1-8 (Continued)

- (b) Arguments against the politicalization of the accounting standard-setting process:
1. Many accountants feel that accounting is primarily technical in nature. Consequently, they feel that substantive, basic research by objective, independent and fair-minded researchers ultimately will result in the best solutions to critical issues, such as the concepts of income and capital, even if it is accepted that there isn't necessarily a single "right" solution.
 2. Even if it is accepted that there are no "absolute truths" as far as critical issues are concerned, many feel that professional accountants, taking into account the diverse interests of the various groups using accounting information, are in the best position, because of their independence, education, training, and objectivity, to decide what international financial reporting standards ought to be.
 3. The complex situations that arise in the business world require that trained accountants develop the appropriate reporting standards.
 4. The use of consensus to develop reporting standards would decrease the professional status of the accountant.
 5. This approach would lead to "lobbying" by various parties to influence the establishment of reporting standards.

CA 1-9

- (a) In many respects, the IASB is a quasi-governmental agency in that its pronouncements are required to be followed in some jurisdictions. For example, all public European companies are required to use IASB standards when preparing financial statements. In fact, both the FASB and the IASB believe that the IFRS have the best potential to provide a common platform on which companies can report and investors can compare financial information. The purely political approach is used in France and West Germany. The private, professional approach is employed in Australia, Canada, and the United Kingdom.
- (b) Publicly reported accounting numbers influence the distribution of scarce resources. Resources are channeled where needed at returns commensurate with perceived risk. Thus, reported accounting numbers have economic effects in that resources are transferred among entities and individuals as a consequence of these numbers. It is not surprising then that individuals affected by these numbers will be extremely interested in any proposed changes in the financial reporting environment.

CA 1-10

- (a) President Sarkozy is putting pressure on the IASB to craft fair value standards that favor banks. However, by introducing politics into the standard-setting process will likely lead to the following consequences:
1. Too many alternatives.
 2. Lack of clarity that will lead to inconsistent application.
 3. Lack of disclosure that reduces transparency.
 4. Not comprehensive in scope.

CA 1-10 (Continued)

When the resulting standards have these attributes, they will be of lower quality and the credibility of the standard-setting process will be questioned. At the extreme, market participants will have less confidence in accounting information and capital markets will be less liquid—cost of capital will be higher. Another indication of the problem of government intervention is shown in the accounting standards used by some countries around the world. Completeness and transparency of information needed by investors and creditors is not available in order to meet or achieve other objectives. In the fair value case, the IASB did respond by accelerating its process to develop a new standard, which provided some exceptions to the fair value accounting that benefited some banks and insurance companies.

- (b) Accounting reports have consequences for the companies that prepare them and the users of those reports—investors, creditors, government bodies, and so on. Considering the economic consequences of accounting standards, it is not surprising that special interest groups become vocal and critical (some supporting, some opposing) when rules are being formulated.

The FASB's derivative accounting pronouncement is no exception. Many from the banking industry, for example, criticized the rule as too complex and leading to unnecessary earnings volatility. They also indicated that the proposal may discourage prudent risk management activities and in some cases could present misleading financial information. As a result, elected officials are often approached to put pressure on the standard-setters (IASB and FASB to change its rulings. In the derivative controversy, Rep. Richard Baker introduced a bill which would force the SEC to formally approve each standard issued by the FASB. Not only would this process delay adoption, but could lead to additional politicalization of the rule-making process. Dingell commented that Congress should stay out of the rule-making process and defended the FASB's approach to establishing accounting standards.

CA 1-11

- (a) Inclusion or omission of information that materially affects net income harms particular stakeholders. Accountants must recognize that their decision to implement (or delay) reporting requirements will have immediate consequences for some stakeholders.
- (b) Yes. Because the IASB rule results in a fairer representation, it should be implemented as soon as possible—regardless of its impact on net income.
- (c) The accountant's responsibility is to provide financial statements that present fairly the financial condition of the company. By advocating early implementation, Weller fulfills this task.
- (d) Potential lenders and investors, who read the financial statements and rely on their fair representation of the financial condition of the company, have the most to gain by early implementation—they would be most directly harmed by deferral of implementation. At the same time, a stockholder who is considering the sale of shares may be harmed by early implementation that lowers net income (and may lower the value of the shares). If employee bonuses are based on the reported income number, the employees could receive lower bonuses with early implementation.

CA 1-12

- (a) The ethical issue in this case relates to making questionable entries to meet expected earnings forecasts. As indicated in this chapter, businesses' concentration on "maximizing the bottom line," "facing the challenges of competition," and "stressing short-term results" places accountants in an environment of conflict and pressure.

CA 1-12 (Continued)

- (b) Given that Normand has pleaded guilty, he certainly acted improperly. Doing the right thing, making the right decision, is not always easy. Right is not always obvious, and the pressures to “bend the rules,” “to play the game,” “to just ignore it” can be considerable.
- (c) No doubt, Normand was in a difficult position. I am sure that he was concerned that if he failed to go along, it would affect his job performance negatively or that he might be terminated. These job pressures, time pressures, peer pressures often lead individuals astray. Can it happen to you? One individual noted that at a seminar on ethics sponsored by the CMA Society of Southern California, attendees were asked if they had ever been pressured to make questionable entries. This individual noted that to the best of his recollection, everybody raised a hand, and more than one had eventually chosen to resign.
- (d) Major stakeholders are: (1) Troy Normand, (2) present and potential stockholders and creditors of WorldCom, (3) employees, and (4) family. Recognize that WorldCom is one of the largest bankruptcies in United States history, so many individuals are affected.

CA 1-13

- (a) **AICPA.** American Institute of Certified Public Accountants. The national organization of practicing certified public accountants.
- (b) **APB.** Accounting Principles Board. A committee of public accountants, industry accountants and academicians which issued 31 Opinions between 1959 and 1973. The APB replaced the CAP and was itself replaced by the FASB. Its opinions, unless superseded, remain a primary source of GAAP.
- (c) **FAF.** Financial Accounting Foundation. An organization whose purpose is to select members of the FASB and its Advisory Councils, fund their activities, and exercise general oversight.
- (d) **FASAC.** Financial Accounting Standards Advisory Council. An organization whose purpose is to consult with the FASB on issues, project priorities, and select task forces.
- (e) **GAAP.** Generally accepted accounting principles. A common set of standards, principles, and procedures which have substantial authoritative support and have been accepted as appropriate because of universal application.
- (f) **CPA.** Certified public accountant. An accountant who has fulfilled certain education and experience requirements and passed a rigorous examination. Most CPAs offer auditing, tax, and management consulting services to the general public.
- (g) **FASB.** Financial Accounting Standards Board. The primary body which currently establishes and improves financial accounting and reporting standards for the guidance of issuers, auditors, users, and others.
- (h) **SEC.** Securities and Exchange Commission. An independent regulatory agency of the United States government which administers the Securities Acts of 1933 and 1934 and other acts.
- (i) **IASB.** International Accounting Standards Board. An international group, formed in 2001, that is actively developing and issuing accounting standards that will have international appeal and support.

CA 1-14

1. (a), (d)
2. (b)
3. (c)

CA 1-15

1. (c)
2. (e)
3. (b)
4. (d)
5. (a)

CA 1-16

- (a) The “due process” system involves the following:
1. Identifying topics and placing them on the Board’s agenda.
 2. Research and analysis is conducted and preliminary views of pros and cons issued.
 3. A public hearing is often held.
 4. Board evaluates research and public responses and issues exposure draft.
 5. Board evaluates responses and changes exposure draft, if necessary. Final statement is then issued.
- (b) Economic consequences mean the impact of accounting reports on the wealth positions of issuers and users of financial information and the decision-making behavior resulting from that impact.
- (c) Economic consequences indicated in the letter are: (1) concerns related to the potential impact on the capital markets, (2) the weakening of companies’ ability to manage risk, and (3) the adverse control implications of implementing costly and complex new rules imposed at the same time as other major initiatives, including the Year 2000 issues and a single European currency.
- (d) The principal point of this letter is to delay the finalization of the derivatives standard. As indicated in the letter, the authors of this letter urge the FASB to expose its new proposal for public comment, following the established due process procedures that are essential to acceptance of its standards and providing sufficient time for affected parties to understand and assess the new approach. (Authors note: The FASB indicated in a follow-up letter that all due process procedures had been followed and all affected parties had more than ample time to comment. In addition, the FASB issued a follow-up standard, which delayed the effective date of the standard, in part to give companies more time to develop the information systems needed for implementation of the standard.)
- (e) The reason why the letter was sent to Congress was to put additional pressure on the FASB to delay or drop the issuance of a rule on derivatives. Unfortunately, in too many cases, when the business community does not like the answer proposed by the FASB, it resorts to lobbying members of Congress. The lobbying efforts usually involve developing some type of legislation that will negate the rule. In some cases, efforts involve challenging the FASB’s authority to develop rules in certain areas with additional Congressional oversight.

FINANCIAL REPORTING PROBLEM

- (a) The two organizations involved in international standard-setting are International Organization of Securities Commissions (IOSCO) and the International Accounting Standards Board (IASB).**
- (b) Different authoritative literature pertaining to methods recording accounting transactions exists today. Some authoritative literature has received more support from the profession than other literature. The literature that has substantial authoritative support is the one most supported by the profession and should be followed when recording accounting transactions. These standards and procedures are called international financial reporting standards (IFRS).**

INTERNATIONAL REPORTING CASE

- (a) The International Accounting Standards Board is an independent, privately funded accounting standards setter based in London, UK. The Board is committed to developing, in the public interest, a single set of high quality, understandable and enforceable global accounting standards that require transparent and comparable information in general purpose financial statements. In addition, the Board cooperates with national accounting standards setters to achieve convergence in accounting standards around the world.
- (b) In summary, the following groups might benefit from the use of International Accounting Standards:
- Investors, investment analysts and stockbrokers: to facilitate international comparisons for investment decisions.
 - Credit grantors: for similar reasons to bullet point above.
 - Multinational companies: as preparers, investors, appraisers of products or staff, and as movers of staff around the globe; also, as raisers of finance on international markets (this also applies to some companies that are not multinationals).
 - Governments: as tax collectors and hosts of multinationals; also interested are securities markets regulators and governmental and non-governmental rule makers.
- (c) The fundamental argument against convergence is that, to the extent that international differences in accounting practices result from underlying economic, legal, social, and other environmental factors, convergence may not be justified. Different accounting has grown up to serve the different needs of different users; this might suggest that the existing accounting practice is “correct” for a given nation and should not be changed merely to simplify the work of multinational companies or auditors. There does seem to be strength in this point particularly for smaller companies with no significant multinational activities or connections. To foist upon a small private family company in Luxembourg lavish disclosure requirements and the need to report a “true and fair” view may be an expensive and unnecessary piece of convergence.

INTERNATIONAL REPORTING CASE (Continued)

The most obvious obstacle to convergence is the sheer size and deeprootedness of the differences in accounting. These differences have grown up over the previous century because of differences in users, legal systems, and so on. Thus, the differences are structural rather than cosmetic, and require revolutionary action to remove them.

ACCOUNTING

- (a) The requirements will depend on the jurisdiction in which they intend to sell the securities. All U.S.-based companies are required to use FASB standards when preparing financial statements and related financial information. The International Accounting Standards Board (IASB) issues international financial reporting standards (IFRS) which are used on most foreign exchanges. Both the FASB and the IASB standards require companies to prepare a full set of financial statements and related disclosures so investors can evaluate and compare investments.
- (b) The two entities that are primarily responsible for establishing IFRS are IOSCO (International Organization of Securities Commissions) and the IASB (International Accounting Standards Board).

The IOSCO does not set accounting standards, but ensures that the global markets can operate in an efficient and effective manner. Conversely, the IASB's mission is to develop a single set of high quality, understandable and international financial reporting standards (IFRSs) for general purpose financial statements.

ANALYSIS

- (a) Decision-usefulness involves providing investors interested in financial reporting information that is useful for making decisions.
- (b) The financial statements provide information on company performance (income statement), financial position – assets owned and liabilities incurred (statement of financial position) and cash flows (statement of cash flows). Investors and creditors use this information to form their own expectations about a company's future cash flows. These assessments are the basis of the decision about an investment in the company.

ACCOUNTING, ANALYSIS AND PRINCIPLES (Continued)

PRINCIPLES

The hierarchy of IFRS to determine what recognition, valuation, and disclosure requirements should be used are:

- 1. International Financial Reporting Standards;**
- 2. International Accounting Standards; and**
- 3. Interpretations from the International Financial Reporting Interpretations Committee**

Any company indicating that it is preparing its financial statements in conformity with IFRS must use all of these standards and interpretations.

PROFESSIONAL RESEARCH

The following responses are drawn from *Framework for the Preparation and Presentation of Financial Statements* (IASB Framework approved by the IASC Board in April 1989 for publication in July 1989, and adopted by the IASB in April 2001.)

- (a) As indicated in paragraph 12 of the Framework, “The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decisions.”
- (b) According to paragraph 21 of the Framework, notes and supplementary schedules serve in this role. For example, they may contain additional information that is relevant to the needs of users about the items in the statement of financial position and income statement. They may include disclosures about the risks and uncertainties affecting the entity and any resources and obligations not recognised in the statement of financial position (such as mineral reserves). Information about geographical and industry segments and the effect on the entity of changing prices may also be provided in the form of supplementary information.
- (c) As indicated in paragraphs 13 and 14, financial statements prepared to meet the objective of financial reporting meet the common needs of most users. However, financial statements do not provide all the information that users may need to make economic decisions since they largely portray the financial effects of past events and do not necessarily provide non-financial information. In addition, financial statements also show the results of the stewardship of management, or the accountability of management for the resources entrusted to it. Those users who wish to assess the stewardship or accountability of management do so in order that they may make economic decisions; these decisions may include, for example, whether to hold or sell their investment in the entity or whether to reappoint or replace the management.

- (a) The IASB issues three major types of pronouncements:
1. International financial reporting standards;
 2. Framework for financial reporting; and
 3. International financial reporting interpretation

IASB standards are financial accounting standards issued by the IASB and are referred to as International Financial Reporting Standards (IFRS). The IASB Framework for financial reporting sets forth fundamental objectives and concepts that the Board uses in developing future standards of financial reporting. The intent of the Framework is to form a cohesive set of interrelated concepts that will serve as tools for solving existing and emerging problems in a consistent manner.

- (b) The hierarchy of IFRS to determine what recognition, valuation, and disclosure requirements should be used are
1. International Financial Reporting Standards;
 2. International Accounting Standards; and
 3. Interpretations from the International Financial Reporting Interpretations Committee

Any company indicating that it is preparing its financial statements in conformity with IFRS must use all of these standards and interpretations.

CHAPTER 2

Conceptual Framework for Financial Reporting

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Concepts for Analysis |
|---------------------------------------------------------------------------|-----------------|-----------------|----------------|-----------------------|
| 1. Conceptual framework—general. | 1 | | | 1, 2 |
| 2. Objective of financial reporting. | 2, 6 | | 1, 2 | 3 |
| 3. Qualitative characteristics of accounting. | 3, 4, 5, 7 | 1, 2, 3, 4 | 1, 2, 3, 4 | 4, 9 |
| 4. Elements of financial statements. | 8, 9, 21 | 5, 6 | 5 | |
| 5. Basic assumptions. | 10, 11, 12 | 7, 8, 13 | 6, 7 | |
| 6. Basic principles: | | | | |
| a. Measurement. | 13, 14, 15 | 9, 10, 13 | 6, 7, 9, 10 | 5, 6 |
| b. Revenue recognition. | 16, 17, 18, 19, | 9 | 7, 9, 10 | 5, 6 |
| c. Expense recognition. | 20 | 9, 13 | 6, 7, 9, 10 | 5, 6, 7, 8, 10 |
| d. Full disclosure. | 22, 23 | 9, 13 | 6, 7, 8, 9, 10 | |
| 7. International standards—comprehensive. | 27, 28, 29 | | 9, 10 | |
| 8. Constraints. | 24, 25, 26 | 11, 12, 13, 14 | 3, 6, 7 | 11 |
| 9. Comprehensive assignments on assumptions, principles, and constraints. | 27, 28, 29 | 14 | 6, 7, 9, 10 | |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises |
|-----------------------------------------------------------------------------------|-----------------|----------------|
| 1. Describe the usefulness of a conceptual framework. | | |
| 2. Describe efforts to construct a conceptual framework. | | |
| 3. Understand the objective of financial reporting. | | 1, 2 |
| 4. Identify the qualitative characteristics of accounting information. | 1, 2, 3, 4 | 1, 2, 3, 4 |
| 5. Define the basic elements of financial statements. | 5, 6 | 5 |
| 6. Describe the basic assumptions of accounting. | 7, 8, 13 | 6, 7 |
| 7. Explain the application of the basic principles of accounting. | 9, 10, 13 | 6, 7, 8, 9, 10 |
| 8. Describe the impact that constraints have on reporting accounting information. | 11, 12, 13, 14 | 6, 7 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|----------------------------------------------------------------------------|---------------------|----------------|
| E2-1 | Usefulness, objective of financial reporting. | Moderate | 10–15 |
| E2-2 | Usefulness, objective of financial reporting, qualitative characteristics. | Moderate | 10–15 |
| E2-3 | Qualitative characteristics. | Moderate | 15–20 |
| E2-4 | Qualitative characteristics. | Simple | 15–20 |
| E2-5 | Elements of financial statements. | Simple | 10–15 |
| E2-6 | Assumptions, principles, and constraints. | Simple | 15–20 |
| E2-7 | Assumptions, principles, and constraints. | Moderate | 20–25 |
| E2-8 | Full disclosure principle. | Complex | 20–25 |
| E2-9 | Accounting principles—comprehensive. | Moderate | 20–25 |
| E2-10 | Accounting principles—comprehensive. | Moderate | 20–25 |
| CA2-1 | Conceptual framework—general. | Simple | 20–25 |
| CA2-2 | Conceptual framework—general. | Simple | 25–35 |
| CA2-3 | Objective of financial reporting. | Moderate | 25–35 |
| CA2-4 | Qualitative characteristics. | Moderate | 30–35 |
| CA2-5 | Revenue recognition principle. | Complex | 25–30 |
| CA2-6 | Revenue and expense recognition principles. | Moderate | 30–35 |
| CA2-7 | Expense recognition principle. | Complex | 20–25 |
| CA2-8 | Expense recognition principle. | Moderate | 20–30 |
| CA2-9 | Qualitative characteristics. | Moderate | 20–30 |
| CA2-10 | Expense recognition principle. | Moderate | 20–25 |
| CA2-11 | Cost-Benefit. | Moderate | 30–35 |

ANSWERS TO QUESTIONS

1. A conceptual framework is a coherent system of concepts that flow from an objective. The objective identifies the purpose of financial reporting. The other concepts provide guidance on (1) identifying the boundaries of financial reporting, (2) selecting the transactions, other events, and circumstances to be represented, (3) how they should be recognized and measured, and (4) how they should be summarized and reported. A conceptual framework is necessary in financial accounting for the following reasons:
 - (1) It will enable the IASB to issue more useful and consistent standards in the future.
 - (2) New issues will be more quickly solvable by reference to an existing framework of basic theory.
 - (3) It will increase financial statement users' understanding of and confidence in financial reporting.
 - (4) It will enhance comparability among companies' financial statements.
2. The primary objective of financial reporting is as follows:

The objective of general purpose financial reporting is to provide financial information about the reporting entity that is **useful to present and potential equity investors, lenders, and other creditors in making decisions in their capacity as capital providers**. Information that is decision useful to capital providers may also be useful to other users of financial reporting who are not capital providers.
3. "Qualitative characteristics of accounting information" are those characteristics which contribute to the quality or value of the information. The fundamental qualitative characteristics are relevance and faithful representation.
4. Relevance and faithful representation are the two fundamental qualities that make accounting information useful for decision-making. To be **relevant**, accounting information must be capable of making a difference in a decision. Information with no bearing on a decision is irrelevant. Financial information is capable of making a difference when it has predictive value, confirmatory value, or both. **Faithful representation** means that the item is representative of the real-world phenomenon that it purports to represent. Faithful representation is a necessity because most users have neither the time nor the expertise to evaluate the factual content of the information. In other words, faithful representation means that the numbers and descriptions match what really existed or happened. To be a faithful representation, information must be complete, neutral, and free of material error.
5. The enhancing qualitative characteristics are comparability, verifiability, timeliness, and understandability. These characteristics enhance the decision usefulness of financial reporting information that is relevant and faithfully represented. Enhancing qualitative characteristics are complementary to the fundamental qualitative characteristics. Enhancing qualitative characteristics distinguish more-useful information from less-useful information.
6. In providing information to users of financial statements, the Board relies on general-purpose financial statements. The intent of such statements is to provide the most useful information possible at minimal cost to various user groups. Underlying these objectives is the notion that users need reasonable knowledge of business and financial accounting matters to understand the information contained in financial statements. This point is important: it means that in the preparation of financial statements a level of reasonable competence can be assumed; this has an impact on the way and the extent to which information is reported.
7. Comparability facilitates comparisons between information about two different enterprises at a particular point in time. Consistency facilitates comparisons between information about the same enterprise at two different points in time.

Questions Chapter 2 (Continued)

8. At present, the accounting literature contains many terms that have peculiar and specific meanings. Some of these terms have been in use for a long period of time, and their meanings have changed over time. Since the elements of financial statements are the building blocks with which the statements are constructed, it is necessary to develop a basic definitional framework for them.
9. The elements are assets, liabilities, and equity (moment in time elements) and income and expenses (period of time elements). The first class (moment in time), affected by elements of the second class (period of time), provides at any time the cumulative result of all changes. This interaction is referred to as “articulation.” That is, key figures in one financial statement correspond to balances in another.
10. The five basic assumptions that underlie the financial accounting structure are:
 - (1) An economic entity assumption.
 - (2) A going concern assumption.
 - (3) A monetary unit assumption.
 - (4) A periodicity assumption.
 - (5) Accrual-basis assumption.
11.
 - (a) In accounting it is generally agreed that any measures of the success of a company for periods less than its total life are at best provisional in nature and subject to correction. Measurement of progress and status for arbitrary time periods is a practical necessity to serve those who must make decisions. It is not the result of postulating specific time periods as measurable segments of total life.
 - (b) The practice of periodic measurement has led to many of the most difficult accounting problems such as inventory pricing, depreciation of long-term assets, and the necessity for revenue recognition tests. The accrual system calls for associating related revenues and expenses. This becomes very difficult for an arbitrary time period with incomplete transactions in process at both the beginning and the end of the period. A number of accounting practices such as adjusting entries or the reporting of corrections of prior periods result directly from efforts to make each period's calculations as accurate as possible and yet recognizing that they are only provisional in nature.
12. The monetary unit assumption assumes that the unit of measure (the dollar) remains reasonably stable so that Euros, Yen, or dollars of different years can be added without any adjustment. When the value of the currency fluctuates greatly over time, the monetary unit assumption loses its validity.

The IASB indicated that it expects the currency unadjusted for inflation or deflation to be used to measure items recognized in financial statements. Only if circumstances change dramatically will the Board consider a more stable measurement unit.
13. Some of the arguments which might be used are outlined below:
 - (1) Cost is definite and reliable; other values would have to be determined somewhat arbitrarily and there would be considerable disagreement as to the amounts to be used.
 - (2) Amounts determined by other bases would have to be revised frequently.
 - (3) Comparison with other companies is aided if cost is employed.
 - (4) The costs of obtaining fair values could outweigh the benefits derived.
14. **Fair value** is defined as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.” Fair value is therefore a market-based measure.

Questions Chapter 2 (Continued)

15. The fair value option gives companies the option to use fair value (referred to the fair value option as the basis for measurement of financial assets and financial liabilities.) The Board believes that fair value measurement for financial assets and financial liabilities provides more relevant and understandable information than historical cost. It considers fair value to be more relevant because it reflects the current cash equivalent value of financial assets and financial liabilities. As a result companies now have the option to record fair value in their accounts for most financial assets and financial liabilities, including such items as receivables, investments, and debt securities.
16. Revenue is to be recognized when it is probable that future economic benefits will flow to the entity and reliable measurement of the amount of the revenue is possible.

The adoption of the sale basis is the accountant's practical solution to the extremely difficult problem of measuring revenue under conditions of uncertainty as to the future. The revenue is equal to the amount of cash that will be received due to the operations of the current accounting period, but this amount will not be definitely known until such cash is collected. The accountant, under these circumstances, insists on having "objective evidence," that is, evidence external to the firm itself, on which to base an estimate of the amount of cash that will be received. The sale is considered to be the earliest point at which this evidence is available in the usual case. Until the sale is made, any estimate of the value of inventory is based entirely on the opinion of the management of the firm. When the sale is made, however, an outsider, the buyer, has corroborated the estimate of management and a value can now be assigned based on this transaction. The sale also leads to a valid claim against the buyer and gives the seller the full support of the law in enforcing collection. In a highly developed economy where the probability of collection is high, this gives additional weight to the sale in the determination of the amount to be collected. Ordinarily there is a transfer of control as well as title at the sales point. This not only serves as additional objective evidence but necessitates the recognition of a change in the nature of assets. The sale, then, has been adopted because it provides the accountant with objective evidence as to the amount of revenue that will be collected, subject of course to the bad debts estimated to determine ultimate collectibility.

17. Revenue is to be recognized when it is probable that future economic benefits will flow to the entity and reliable measurement of the amount of the revenue is possible. The most common time at which these two conditions are met is when the product or merchandise is delivered or services are rendered to customers. Therefore, revenue for Selane Eatery should be recognized at the time the luncheon is served.
18. Each deviation depends on either the existence of earlier objective evidence other than the sale or insufficient evidence of sale. Objective evidence is the key.
- (a) In the case of installment sales the probability of uncollectibility may be great due to the nature of the collection terms. The sale itself, therefore, does not give an accurate basis on which to estimate the amount of cash that will be collected. It is necessary to adopt a basis which will give a reasonably accurate estimate. The installment sales method is a modified cash basis; income is recognized as cash is collected. A cash basis is preferable when no earlier estimate of revenue is sufficiently accurate.
 - (b) The opposite is true in the case of certain agricultural products. Since there is a ready buyer and a quoted price, a sale is not necessary to establish the amount of revenue to be received. In fact, the sale is an insignificant part of the whole operation. As soon as it is harvested, the crop can be valued at its selling price less the cost of transportation to the market and this valuation gives an extremely accurate measure of the amount of revenue for the period without the need of waiting until the sale has been made to measure it. In other words, it is probable that future economic benefits will flows to the entity and reliable measurement of the revenue is possible, and therefore revenue should be recognized.

Questions Chapter 2 (Continued)

- (c) In the case of long-term contracts, the use of the “sales basis” would result in a distortion of the periodic income figures. A shift to a “percentage of completion basis” is warranted if objective evidence of the amount of revenue earned in the periods prior to completion is available. The accountant finds such evidence in the existence of a firm contract, from which the ultimate realization can be determined, and estimates of total cost which can be compared with cost incurred to estimate percentage-of-completion for revenue measurement purposes. In general, when estimates of costs to complete and extent of progress toward completion of long-term contracts are reasonably dependable, the percentage-of-completion method is preferable to the completed-contract method.
19. The president means that the “gain” should be recorded in the books. This item should not be entered in the accounts, however, because a reliable measurement of the revenue is questionable.
20. The cause and effect relationship can seldom be conclusively demonstrated, but many costs appear to be related to particular revenues and recognizing them as expenses accompanies recognition of the revenue. Examples of expenses that are recognized by associating cause and effect are sales commissions and cost of products sold or services provided.
- Systematic and rational allocation means that in the absence of a direct means of associating cause and effect, and where the asset provides benefits for several periods, its cost should be allocated to the periods in a systematic and rational manner. Examples of expenses that are recognized in a systematic and rational manner are depreciation of plant assets, amortization of intangible assets, and allocation of rent and insurance.
- Some costs are immediately expensed because the costs have no discernible future benefits or the allocation among several accounting periods is not considered to serve any useful purpose. Examples include officers’ salaries, most selling costs, amounts paid to settle lawsuits, and costs of resources used in unsuccessful efforts.
21. An item that meets the definition of an element should be recognized if: (a) it is probable that any future economic benefit associated with the item will flow to or from the entity; and (b) the item has a cost or value that can be measured with reliability.
22. (a) To be recognized in the main body of financial statements, an item must meet the definition of an element. In addition the item must have been measured, recorded in the books, and passed through the double-entry system of accounting.
- (b) Information provided in the notes to the financial statements amplifies or explains the items presented in the main body of the statements and is essential to an understanding of the performance and position of the enterprise. Information in the notes does not have to be quantifiable, nor does it need to qualify as an element.
- (c) Supplementary information includes information that presents a different perspective from that adopted in the financial statements. It also includes management’s explanation of the financial information and a discussion of the significance of that information.

Questions Chapter 2 (Continued)

23. The general guide followed with regard to the full disclosure principle is to disclose in the financial statements any facts of sufficient importance to influence the judgment of an informed reader. The fact that the amount of outstanding common shares doubled in January of the subsequent reporting period probably should be disclosed because such a situation is of importance to present shareholders. Even though the event occurred after December 31, 2011, it should be disclosed on in the notes to the financial statements as of December 31, 2011, in order to make adequate disclosure. (The major point that should be emphasized throughout the entire discussion on full disclosure is that there is normally no “black” or “white” but varying shades of grey and it takes experience and good judgment to arrive at an appropriate answer.)
24. Accounting information is subject to two constraints: cost/benefit considerations and materiality. Information is not worth providing unless the benefits it provides exceed the costs of preparing it. Information that is immaterial is irrelevant, and consequently, not useful. If its inclusion or omission would have no impact on a decision maker, the information is immaterial. However, if it is material, it should be reported.
25. The costs of providing accounting information are paid primarily to highly trained accountants who design and implement information systems, retrieve and analyze large amounts of data, prepare financial statements in accordance with authoritative pronouncements, and audit the information presented. These activities are time-consuming and costly. The benefits of providing accounting information are experienced by society in general, since informed financial decisions help allocate scarce resources to the most effective enterprises. Occasionally new accounting standards require presentation of information that is not readily assembled by the accounting systems of most companies. A determination should be made as to whether the incremental or additional costs of providing the proposed information exceed the incremental benefits to be obtained. This determination requires careful judgment since the benefits of the proposed information may not be readily apparent.
26. The concept of materiality refers to the relative significance of an amount, activity, or item to informative disclosure and a proper presentation of financial position and the results of operations. Materiality has qualitative and quantitative aspects; both the nature of the item and its relative size enter into its evaluation.

An accounting misstatement is said to be material if knowledge of the misstatement will affect the decisions of the average informed reader of the financial statements. Financial statements are misleading if they omit a material fact or include so many immaterial matters as to be confusing. In the examination, the auditor concentrates efforts in proportion to degrees of materiality and relative risk and disregards immaterial items.

The relevant criteria for assessing materiality will depend upon the circumstances and the nature of the item and will vary greatly among companies. For example, an error in classifying equipment will be more important than if the misclassification was to the inventory account, compared to misclassifying the same amount to land, because the former error would affect working capital ratios.

The effect upon net income (or earnings per share) is the most commonly used measure of materiality. This reflects the prime importance attached to net income by investors and other users of the statements. The effects upon assets and equities are also important as are misstatements of individual accounts and subtotals included in the financial statements. The auditor will note the effects of misstatements on key ratios such as gross profit, the current ratio, or the debt/equity ratio and will consider such special circumstances as the effects on debt agreement covenants and the legality of dividend payments.

Questions Chapter 2 (Continued)

There are no rigid standards or guidelines for assessing materiality. The lower bound of materiality has been variously estimated at 5% to 20% of net income, but the determination will vary based upon the individual case and might not fall within these limits. Certain items, such as a questionable loan to a company officer, may be considered material even when minor amounts are involved. In contrast a large misclassification among expense accounts may not be deemed material if there is no misstatement of net income.

27. Both the IASB and FASB have similar measurement principles, based on historical cost and fair value. However U.S. GAAP has a concept statement to guide estimation of fair values when market-related data is not available. (*Statement of Financial Accounting Concepts No. 7*, "Using Cash Flow Information and Present Value in Accounting.") The IASB is considering a proposal to provide expanded guidance on estimating fair values ("Discussion Paper on Fair Value Measurement," (London U.K.: IASB), November 2006).
28. The phases of the conceptual framework project are:
- (a) Objective and qualitative characteristics.
 - (b) Elements and recognition
 - (c) Measurement
 - (d) Reporting entity
 - (e) Presentation and disclosure
 - (f) Purpose and status
 - (g) Application to not-for-profit entities
 - (h) Remaining issues

A final document is expected in 2010 for Phase A and Phase D.

29. As indicated, the measurement project relates to both initial measurement and subsequent measurement. Thus, the continuing controversy related to historical cost and fair value accounting suggests that this issue will be controversial. The reporting entity project that addresses which entities should be included in consolidated statements and how to implement such consolidations will be a difficult project. Other difficult issues relate to the trade off between highly relevant information that is difficult to verify. Or how do we define control when we are developing a definition of an asset? Or is a liability the future sacrifice itself or the obligation to make the sacrifice?

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 2-1

- (a) Comparability**
- (b) Timeliness**
- (c) Predictive value**
- (d) Relevance**
- (e) Neutrality**

BRIEF EXERCISE 2-2

- (a) Faithful representation**
- (b) Confirmatory value**
- (c) Free from error**
- (d) Completeness**
- (e) Understandability**

BRIEF EXERCISE 2-3

- (a) If the company changed its method for inventory valuation, the consistency, and therefore the comparability, of the financial statements have been affected by a change in the method of applying the accounting principles employed. The change would require comment in the auditor's report in an explanatory paragraph.**
- (b) If the company disposed of one of its two subsidiaries that had been included in its consolidated statements for prior years, no comment as to consistency needs to be made in the CPA's audit report. The comparability of the financial statements has been affected by a business transaction, but there has been no change in any accounting principle employed or in the method of its application. (The transaction would probably require informative disclosure in the financial statements.)**
- (c) If the company reduced the estimated remaining useful life of plant property because of obsolescence, the comparability of the financial statements has been affected. The change is a matter of consistency; it is a change in accounting estimate which leads to a change in accounting principles employed or in their method of application. The change would require comment in the auditor's report in an explanatory paragraph.**

BRIEF EXERCISE 2-3 (Continued)

- (d) If the company is using a different inventory valuation method from all other companies in its industry, no comment as to consistency need be made in the CPA's audit report. Consistency refers to a given company following consistent accounting principles from one period to another; it does not refer to a company following the same accounting principles as other companies in the same industry.**

BRIEF EXERCISE 2-4

- (a) Verifiability**
- (b) Comparability**
- (c) Consistency**
- (d) Timeliness**

BRIEF EXERCISE 2-5

- (a) Should be debited to the Land account, as it is a cost incurred in acquiring land.**
- (b) As an asset, preferably to a Land Improvements account. The driveway will last for many years, and therefore it should be capitalized and depreciated.**
- (c) Probably an asset, as it will last for a number of years and therefore will contribute to operations of those years.**
- (d) If the fiscal year ends December 31, this will all be an expense of the current year that can be charged to an expense account. If statements are to be prepared on some date before December 31, part of this cost would be expense and part asset. Depending upon the circumstances, the original entry as well as the adjusting entry for statement purposes should take the statement date into account.**
- (e) Should be debited to the building account; depreciation expense during the life of building will include these costs.**
- (f) As an expense, as the service has already been received; the contribution to operations occurred in this period.**

BRIEF EXERCISE 2-6

- (a) Equity**
- (b) Income**
- (c) Equity**
- (d) Assets**
- (e) Expenses**
- (f) Expenses**
- (g) Liabilities**
- (h) Equity**
- (i) Income**
- (j) Equity**

BRIEF EXERCISE 2-7

- (a) Fair value, or net realizable value, if the land was sold.**
- (b) Would not be disclosed. Depreciation would be inappropriate if the going concern assumption no longer applies.**
- (c) Fair value, or selling price less costs to complete.**
- (d) Fair value (i.e., redeemable value), if the insurance coverage was transferred to another party.**

Note: In each of these cases, historical cost or fair value valuation might be abandoned if it can not be assumed that the company will not continue on indefinitely.

BRIEF EXERCISE 2-8

- (a) Periodicity**
- (b) Monetary unit**
- (c) Going concern**
- (d) Economic entity**

BRIEF EXERCISE 2-9

- (a) Revenue recognition**
- (b) Expense recognition**
- (c) Full disclosure**
- (d) Cost principle**

BRIEF EXERCISE 2-10

Investment 1—Least verifiable.

Investment 2—Most verifiable.

Investment 3—Intermediate verifiability

BRIEF EXERCISE 2-11

- (a) Materiality**
- (b) Cost-benefit relationship**
- (c) Materiality**

BRIEF EXERCISE 2-12

Companies and their auditors for the most part have adopted the general rule of thumb that anything under 5% of net income is considered not material. Recently, the SEC in the United States has indicated that it is okay to use this percentage for the initial assessment of materiality, but other factors must be considered. For example, companies can no longer fail to record items in order to meet consensus analyst's earnings numbers; preserve a positive earnings trend; convert a loss to a profit or vice versa; increase management compensation, or hide an illegal transaction like a bribe. In other words, both quantitative and qualitative factors must be considered in determining when an item is material.

- (a) Because the change was used to create a positive trend in earnings, the change is considered material.**
- (b) Each item must be considered separately and not netted. Therefore each transaction is considered material.**
- (c) In general, companies that follow an "expense all capital items below a certain amount" policy are not in violation of the materiality concept. Because the same practice has been followed from year to year, Damon's actions are acceptable.**

BRIEF EXERCISE 2-13

- (a) Accrual basis**
- (b) Full disclosure**
- (c) Expense recognition principle**
- (d) Cost principle**

BRIEF EXERCISE 2-14

- 1. Costs; costs**
- 2. General purpose financial reporting**
- 3. Complete**
- 4. Understandability**
- 5. Comparability**
- 6. Confirmatory value**

SOLUTIONS TO EXERCISES

EXERCISE 2-1 (10–15 minutes)

- (a) True
- (b) False. General purpose financial reporting helps users who lack the ability to demand all the financial information they need from an entity and therefore must rely, at least partly, on the information provided in financial reports. Managers and company insiders generally do not meet these criteria.
- (c) False. Accounting standards based on individual conceptual frameworks generally will *not* result in consistent and comparable accounting reports. Rather, standard-setting that is based on personal conceptual frameworks will lead to different conclusions about identical or similar issues than it did previously. As a result, standards will not be consistent with one another and past decisions may not be indicative of future ones.
- (d) False. The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to present and potential equity investors, lenders, and other creditors in making decisions in their capacity as capital providers. However, that information may also be useful to other users of financial reporting who are not capital providers.
- (e) False. An implicit assumption is that users need reasonable knowledge of business and financial accounting matters to understand the information contained in financial statements. This point is important. It means that financial statement preparers assume a level of competence on the part of users. This assumption impacts the way and the extent to which companies report information.
- (f) True.

EXERCISE 2-2 (10–15 minutes)

- (a) False. The fundamental qualitative characteristics that make accounting information useful are relevance and faithful representation.**
- (b) True.**
- (c) False. The Framework does not include prudence or conservatism as desirable qualities of financial reporting information. The framework indicates that prudence or conservatism generally is in conflict with the quality of neutrality. This is because by being prudent or conservative likely leads to a bias in the reported financial position and financial performance. In fact, introducing biased understatement of assets (or overstatement of liabilities) in one period frequently leads to overstating financial performance in later periods—a result that cannot be described as prudent. This is inconsistent with neutrality, which encompasses freedom from bias.**
- (d) False. To be a faithful representation, information must be complete, neutral, and free of material error.**
- (e) False. While comparability does pertain to the reporting of information in a similar manner for different companies, it also refers to the consistency of information, which is present when a company applies the same accounting treatment to similar events, from period to period. Through such application the company shows consistent use of accounting standards and this permits valid comparisons from one period to the next.**
- (f) False. Verifiability is an enhancing characteristic for both relevance and faithful representation. Verifiability occurs when independent measurers, using the same methods obtain similar results.**
- (g) True.**

EXERCISE 2-3 (15–20 minutes)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| (a) Confirmatory Value. | (e) Neutrality. |
| (b) Cost/Benefit and Materiality. | (f) Relevance and Faithful Representation. |
| (c) Neutrality. | (g) Timeliness. |
| (d) Consistency (note the overall qualitative characteristic is comparability; consistency is considered part of comparability). | (h) Relevance. |
| | (i) Comparability. |
| | (j) Verifiability. |

EXERCISE 2-4 (15–20 minutes)

- | | |
|-------------------------|------------------------------------------------------------------------------------|
| (a) Comparability. | (g) Comparability (Consistency), Verifiability, Timeliness, and Understandability. |
| (b) Confirmatory Value. | |
| (c) Comparability. | |
| (d) Neutrality. | (h) Faithful Representation. |
| (e) Verifiability. | (i) Relevance and Faithful Representation. |
| (f) Relevance. | (j) Timeliness. |

EXERCISE 2-5 (10–15 minutes)

- (a) Liabilities.
- (b) Equity.
- (c) Equity.
- (d) Income.
- (e) Assets.
- (f) Income, expenses.
- (g) Equity.
- (h) Income.
- (i) Equity.

EXERCISE 2-6 (15–20 minutes)

- (a) 8. Expense recognition principle.
- (b) 6. Cost principle.
- (c) 9. Full disclosure principle.
- (d) 2. Going concern assumption.
- (e) 10. Revenue recognition principle.
- (f) 1. Economic entity assumption.
- (g) 4. Periodicity assumption.
- (h) 7. Fair value principle.
- (i) 12. Materiality constraint.
- (j) 3. Monetary unit assumption.

EXERCISE 2-7 (20–25 minutes)

- | | |
|------------------------------------|-------------------------------------------------|
| (a) Historical cost principle. | (k) Revenue and expense recognition principles. |
| (b) Accrual-basis assumption. | (l) Economic entity assumption. |
| (c) Full disclosure principle. | (m) Periodicity assumption. |
| (d) Expense recognition principle. | (n) Expense recognition principle. |
| (e) Materiality constraint. | (o) Materiality constraint. |
| (f) Fair value principle. | (p) Historical cost principle. |
| (g) Economic entity assumption. | (q) Accrual-basis assumption. |
| (h) Full disclosure principle. | (r) Expense recognition principle. |
| (i) Revenue recognition principle. | |
| (j) Full disclosure principle. | |

EXERCISE 2-8

- (a) It is well established in accounting that revenues, cost of goods sold and expenses must be disclosed in an income statement. It might be noted to students that such was not always the case. At one time, only net income was reported but over time we have evolved to the present reporting format.
- (b) The proper accounting for this situation is to report the equipment as an asset and the notes payable as a liability on the statement of financial position. Offsetting is permitted in only limited situations where certain assets are contractually committed to pay off liabilities, or when a government grant is involved.

EXERCISE 2-8 (Continued)

- (c) The basis upon which inventory amounts are stated (net realizable value) and the method used in determining cost (Weighted Average, FIFO, etc.) should also be reported. The disclosure requirement related to the method used in determining cost should be emphasized, indicating that where possible alternatives exist in financial reporting, disclosure in some format is required.**
- (d) Comparability requires that disclosure of changes in accounting principles be made in the financial statements. To do otherwise would result in financial statements that are misleading. Financial statements are more useful if they can be compared with similar reports for prior years.**

EXERCISE 2-9

- (a) This entry violates the economic entity assumption. This assumption in accounting indicates that economic activity can be identified with a particular unit of accountability. In this situation, the company erred by charging this cost to the wrong economic entity.**
- (b) The cost principle indicates that assets and liabilities are accounted for on the basis of cost. If we were to select sales value, for example, we would have an extremely difficult time in attempting to establish a sales value for a given item without selling it. It should further be noted that the revenue recognition principle provides the answer to when revenue should be recognized. Revenue should be recognized when it is probable that future economic benefits will flow to the entity and reliable measurement of the amount of revenue is possible. In this situation, an earnings process has definitely not taken place.**
- (c) Probably the company should not record this loss. The expense recognition principle indicates that expenses should be allocated to the appropriate periods involved. In this case, there appears to be a high uncertainty that the company will have to pay. IAS 37 requires that a loss should be accrued only (1) when it is probable that the company would lose the suit and (2) the amount of the loss can be reasonably estimated. (Note to instructor: The student will probably be unfamiliar with this standard. The purpose of this question is to develop some decision framework when the probability of a future event must be assumed.)**

EXERCISE 2-9 (Continued)

- (d) At the present time, accountants generally do not recognize price-level adjustments in the accounts. Hence, it is misleading to deviate from the cost principle because conjecture or opinion can take place. It should also be noted that depreciation is not so much a matter of valuation as it is a means of cost allocation. Assets are not depreciated on the basis of a decline in their fair value, but are depreciated on the basis of systematic charges of expired costs against revenues.**
- (e) Most accounting methods are based on the assumption that the business enterprise will have a long life. Acceptance of this assumption provides credibility to the historical cost principle, which would be of limited usefulness if liquidation were assumed. Only if we assume some permanence to the enterprise is the use of depreciation and amortization policies justifiable and appropriate. Therefore, it is incorrect to assume liquidation as Gonzales, Inc. has done in this situation. It should be noted that only where liquidation appears imminent is the going concern assumption inapplicable.**
- (f) The answer to this situation is the same as (b).**

EXERCISE 2-10

- (a) Depreciation is an allocation of cost, not an attempt to value assets. As a consequence, even if the value of the building is increasing, costs related to this building should be matched with revenues on the income statement, not as a charge against retained earnings.**
- (b) A gain should not be recognized until the inventory is sold. Accountants follow the cost approach and write-ups of assets are not permitted. It should also be noted that the revenue recognition principle states that revenue should not be recognized until the benefits will flow to the company and can be measured reliably.**

EXERCISE 2-10 (Continued)

- (c) Assets should be recorded at the fair value of what is given up or the fair value of what is received, whichever is more clearly evident. It should be emphasized that it is not a violation of the cost principle to use the fair value of the shares. Recording the asset at the par value of the shares has no conceptual validity. Par value is merely an arbitrary amount usually set at the date of incorporation.**
- (d) The gain should be recognized at the point of sale. Deferral of the gain should not be permitted. Revenue should be recognized when it is probable that future economic benefits will flow to the entity and reliable measurement of the revenue is possible. To explore this question at greater length, one might ask what justification other than the controller's might be used to justify the deferral of the gain. For example, the rationale provided in IFRS, noncompletion of the earnings process, might be discussed.**
- (e) It appears from the information that the sale should be recorded in 2012 instead of 2011. Regardless of whether the terms are f.o.b. shipping point or f.o.b. destination, the point is that the inventory was sold in 2012. It should be noted that if the company is employing a perpetual inventory system in dollars and quantities, a debit to Cost of Goods Sold and a credit to Inventory is also necessary in 2012.**

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 2-1 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to comment on the purpose of the conceptual framework.

CA 2-2 (Time 25–35 minutes)

Purpose—to provide the student with the opportunity to identify and discuss the benefits of the conceptual framework. In addition, the most important quality of information must be discussed, as well as other key characteristics of accounting information.

CA 2-3 (Time 25–35 minutes)

Purpose—to provide the student with some familiarity with the objective of financial reporting. The student is asked to indicate the objective of accounting, and to discuss how this statement might help to establish accounting standards.

CA 2-4 (Time 30–35 minutes)

Purpose—to provide the student with some familiarity with the qualitative characteristics. The student is asked to describe various characteristics of useful accounting information and to identify possible trade-offs among these characteristics.

CA 2-5 (Time 25–30 minutes)

Purpose—to provide the student with the opportunity to indicate and discuss different points at which revenues can be recognized. The student is asked to discuss the “crucial event” that triggers revenue recognition.

CA 2-6 (Time 30–35 minutes)

Purpose—to provide the student with familiarity with an economic concept of income as opposed to the IFRS approach. Also, factors to be considered in determining when net revenue should be recognized are emphasized.

CA 2-7 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to assess different points to report costs as expenses. Direct cause and effect, indirect cause and effect, and rational and systematic approaches are developed.

CA 2-8 (Time 20–30 minutes)

Purpose—to provide the student with a realistic case involving association of costs with revenues. The advantages of expensing costs as incurred versus spreading costs are examined. Specific guidance is asked on how allocation over time should be reported.

CA 2-9 (Time 20–30 minutes)

Purpose—to provide the student with the opportunity to discuss the relevance and faithful representation of financial statement information. The student must write a letter on this matter so the case does provide a good writing exercise for the students.

CA 2-10 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to discuss the ethical issues related to expense recognition.

CA 2-11 (Time 30–35 minutes)

Purpose—to provide the student with the opportunity to discuss the cost/benefit constraint.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 2-1

- (a) A conceptual framework establishes the concepts that underlie financial reporting. A conceptual framework is a coherent system of concepts that flow from an objective. The objective identifies the purpose of financial reporting. The other concepts provide guidance on (1) identifying the boundaries of financial reporting (2) selecting the transactions, other events, and circumstances to be represented. (3) how they should be recognized and measured, and (4) how they should be summarized and reported.

A conceptual framework is necessary so that standard setting is useful, i.e., standard setting should build on and relate to an established body of concepts and objectives. A well-developed conceptual framework should enable the IASB to issue more useful and consistent standards in the future.

- (b) Specific benefits that may arise are:
- (1) A coherent set of standards and rules should result.
 - (2) New and emerging practical problems should be more quickly solved by reference to an existing framework.
 - (3) It should increase financial statement users' understanding of and confidence in financial reporting.
 - (4) It should enhance comparability among companies' financial statements.
 - (5) It should help determine the bounds for judgment in preparing financial statements.
 - (6) It should provide guidance to the body responsible for establishing accounting standards.

CA 2-2

- (a) IASB's framework should provide benefits to the accounting community such as:
- (1) guiding the IASB in establishing accounting standards on a consistent basis.
 - (2) determining bounds for judgment in preparing financial statements by prescribing the nature, functions and limits of financial accounting and reporting.
 - (3) increasing users' understanding of and confidence in financial reporting.
- (b) The Framework identifies the most important quality for accounting information as usefulness for decision making. Relevance and faithful representation are the fundamental qualities leading to this decision usefulness. Usefulness is the most important quality because, without usefulness, there would be no benefits from information to set against its costs.
- (c) The qualitative characteristics can be distinguished as fundamental or enhancing characteristics, depending on how they affect the usefulness of information. Each quality is described briefly below.

Fundamental Qualities

Relevance To be **relevant**, accounting information must be capable of making a difference in a decision. Information with no bearing on a decision is irrelevant. Financial information is capable of making a difference when it has predictive value, confirmatory value, or both.

Faithful Representation For accounting information to be useful, it must be a faithful representation of the real-world phenomenon that it purports to represent. Faithful representation is a necessity because most users have neither the time nor the expertise to evaluate the factual content of the information. To be a faithful representation, information must be complete, neutral, and free of material error.

CA 2-2 (Continued)

Enhancing Qualities

Comparability. Information that is measured and reported in a similar manner for different companies is considered comparable. Comparability enables users to identify the real similarities and differences in economic events between companies. Another type of comparability, consistency, is present when a company applies the same accounting treatment to similar events, from period to period, the company shows consistent use of accounting standards.

Verifiability. Occurs when independent measurers, using the same methods obtain similar results.

Timeliness. Timeliness means having information available to decision makers before it loses its capacity to influence decisions. Having relevant information available sooner can enhance its capacity to influence decisions, and a lack of timeliness can rob information of its usefulness.

Understandability. Decision makers vary widely in the types of decisions they make, how they make decisions, the information they already possess or can obtain from other sources, and their ability to process the information. For information to be useful there must be a connection (linkage) between these users and the decisions they make. This link, **understandability**, is the quality of information that lets reasonably informed users see its significance. Understandability is enhanced when information is classified, characterized, and presented clearly and concisely. Comparability also can enhance understandability.

CA 2-3

- (a) The objective of general purpose financial reporting is to provide financial information about the reporting entity that is **useful to present and potential equity investors, lenders, and other creditors in making decisions in their capacity as capital providers**. Information that is decision useful to capital providers may also be useful to other users of financial reporting who are not capital providers. However, an implicit assumption is that users need reasonable knowledge of business and financial accounting matters to understand the information contained in financial statements. This point is important. It means that financial statement preparers assume a level of competence on the part of users. This assumption impacts the way and the extent to which companies report information.
- (b) The purpose of Framework is to set forth fundamentals on which financial accounting and reporting standards may be based. Without an objective that everyone can agree to, inconsistent standards will be developed. For example, some believe that accountability should be the primary objective of financial reporting. Others argue that prediction of future cash flows is more important. It follows that individuals who believe that accountability is the primary objective may arrive at different financial reporting standards than others who argue for prediction of cash flow. Only by establishing some consistent starting point can accounting ever achieve some underlying consistency in establishing accounting principles.

It should be emphasized to the students that the Board itself is likely to be the major user and thus the most direct beneficiary of the guidance provided by this pronouncement. However, knowledge of the objectives and concepts the Board uses should enable all who are affected by or interested in financial accounting standards to better understand the content and limitations of information provided by financial accounting and reporting, thereby furthering their ability to use that information effectively and enhancing confidence in financial accounting and reporting. That knowledge, if used with care, may also provide guidance in resolving new or emerging problems of financial accounting and reporting in the absence of applicable authoritative pronouncements.

CA 2-4

- (a) (1) **Relevance** is one of the two fundamental decision-specific characteristics of useful accounting information. Relevant information is capable of making a difference in a decision. Relevant information helps users to make predictions about the outcomes of past, present, and future events, or to confirm or correct prior expectations.
- (2) **Faithful representation** is one of the two fundamental decision-specific characteristics of useful accounting information. Faithfully represented information can be depended upon to represent the conditions and events that it is intended to represent. Faithful representation stems from completeness, neutrality, and lack of error.
- (3) **Understandability** is an enhancing characteristic of information. Information is understandable when it permits reasonably informed users to perceive its significance. Understandability is a link between users, who vary widely in their capacity to comprehend or utilize the information, and the decision-specific qualities of information.
- (4) **Comparability** means that information about companies has been prepared and presented in a similar manner. Comparability enhances comparisons between information about two different companies at a particular point in time.
- (5) **Neutrality** means that a company cannot select information to favor one set of parties over another. Reporting unbiased information must be the overriding consideration. If financial reporting is biased, financial reports will lose their credibility.
- (b) (**Note to instructor:** There are a multitude of answers possible here. The suggestions below are intended to serve as examples.)
- (1) Forecasts of future operating results and projections of future cash flows may be highly relevant to some decision makers. However, they would not be as representationally faithful as historical cost information about past transactions.
- (2) Proposed new accounting methods may be more relevant to many decision makers than existing methods. However, if adopted, they would impair consistency and make trend comparisons of an company's results over time difficult or impossible.
- (3) There presently exists much diversity among acceptable accounting methods and procedures. In order to facilitate comparability between companies, the use of only one accepted accounting method for a particular type of transaction could be required. However, consistency would be impaired for those firms changing to the new required methods.
- (4) Occasionally, relevant information is exceedingly complex. Judgment is required in determining the optimum trade-off between relevance and understandability. Information about the impact of general and specific price changes may be highly relevant but not understandable by all users.
- (c) Although trade-offs result in the sacrifice of some desirable quality of information, the overall result should be information that is more useful for decision making.

CA 2-5

- (a) The various accepted times of recognizing revenue in the accounts are as follows:
- (1) Time of sale. This time is currently acceptable when the costs and expenses related to the particular transaction are reasonably determinable at the time of sale and when the collection of the sales price is reasonably certain.

CA 2-5 (Continued)

- (2) At completion. This time is currently acceptable in extractive industries where the salability of the product at a quoted price is likely and in the agricultural industry where there is a quoted price for the product and only low additional costs of delivery to the market remain.
 - (3) During production. This time is currently acceptable when the revenue is known from the contract and total cost can be estimated to determine percentage of completion.
 - (4) At collection. This time is currently acceptable when collections are received in installments, when there are substantial “after costs” that unless anticipated would have the effect of overstating income on a sales basis in the period of sale, and when collection risks are high.
- (b) (1) The “crucial event”—that is, the most difficult task in the cycle of a complete transaction—in the process of earning revenue may or may not coincide with the rendering of service to the subscriber. The new director suggests that they do not coincide in the magazine business and that revenue from subscription sales and advertising should be recognized in the accounts when the difficult task of selling is accomplished and not when the magazines are published to fill the subscriptions or to carry the advertising.

The director's view that there is a single crucial event in the process of earning revenue in the magazine business is questionable even though the amount of revenue is determinable when the subscription is sold. Although the firm cannot prosper without good advertising contracts and while advertising rates depend substantially on magazine sales, it also is true that readers will not renew their subscriptions unless the content of the magazine pleases them. Unless subscriptions are obtained at prices that provide for the recovery in the first subscription period of all costs of selling and filling those subscriptions, the editorial and publishing activities are as crucial as the sale in the earning of the revenue. Even if the subscription rate does provide for the recovery of all associated costs within the first period, however, the editorial and publishing activities still would be important since the firm has an obligation (in the amount of the present value of the costs expected to be incurred in connection with the editorial and publication activities) to produce and deliver the magazine. Not until this obligation is fulfilled should the revenue associated with it be recognized in the accounts since the revenue is the result of accomplishing two difficult economic tasks (selling and filling subscriptions) and not just the first one. The director's view also presumes that the cost of publishing the magazines can be computed accurately at or close to the time of the subscription sale despite uncertainty about possible changes in the prices of the factors of production and variations in efficiency. Hence, only a portion—not most—of the revenue should be recognized in the accounts at the time the subscription is sold.

- (2) Recognizing in the accounts all the revenue in equal portions with the publication of the magazine every month is subject to some of the same criticism from the standpoint of theory as the suggestion that all or most of the revenue be recognized in the accounts at the time the subscription is sold. Although the journalistic efforts of the magazine are important in the process of earning revenue, the firm could not prosper without magazine sales and the advertising that results from paid circulation. Hence, some revenue should be recognized in the accounts at the time of the subscription sale.

This alternative, even though it does not recognize revenue in the accounts quite as fast as it is earned, is preferable to the first alternative because a greater proportion of the process of earning revenue is associated with the monthly publication of the magazine than with the subscription sale. For this reason, and because the task of estimating the amount of revenue associated with the subscription sale often has been considered subjective, recognizing revenue in the accounts with the monthly publication of the magazine has received support even though it does not meet the tests of revenue recognition as well as the next alternative.

CA 2-5 (Continued)

- (3) Recognizing in the accounts a portion of the revenue at the time a cash subscription is obtained and a portion each time an issue is published meets the tests of revenue recognition better than the other two alternatives. A portion of the net income is recognized in the accounts at the time of each major or crucial event. Each crucial event is clearly discernible and is a time of interaction between the publisher and subscriber. A legal sale is transacted before any revenue is recognized in the accounts. Prior to the time the revenue is recognized in the accounts, it already has been received in distributable form. Finally, the total revenue is measurable with more than the usual certainty, and the revenue attributable to each crucial event is determinable using reasonable (although sometimes conceptually unsatisfactory) assumptions about the relationship between revenue and costs when the costs are indirect.

(Note to instructor: CA 2-5 might also be assigned in conjunction with Chapter 18.)

CA 2-6

- (a) The economist views business income in terms of wealth of the entity as a whole resulting from an accretion attributable to the whole process of business activity. The accountant must measure the “wealth” of the entity in terms of its component parts, that is, individual assets and liabilities. The events must be identified which cause changes in financial condition of the entity and the resulting changes should be assigned to specific accounting periods. To achieve this identification of such events, accountants employ the revenue recognition principle in the measurement of periodic income.
- (b) Revenue recognition results from the accomplishment of economic activity involving the transfer of goods and services giving rise to a claim. To warrant recognition there must be a change in assets that is capable of being objectively measured and that involves an exchange transaction. This refers to the presence of an arm’s-length transaction with a party external to the entity. The existence and terms of the transaction may be defined by operation of law, by established trade practice, or may be stipulated in a contract.

In general, an item that meets the definition of an element should be recognized if: (a) it is probable that any future economic benefit associated with the item will flow to or from the entity; and (b) the item has a cost or value that can be measured with reliability. With respect to revenue, it is recognized when it is probable that future economic benefits will flow to the company and reliable measurement of the amount of revenue is possible.

Events that can give rise to recognition of revenue are: the completion of a sale; the performance of a service; the production of a standard interchangeable good with a guaranteed market, a determinable market value and only minor costs of marketing, such as precious metals and certain agricultural commodities; and the progress of a construction project, as in shipbuilding. The passing of time may be the “event” that establishes the recognition of revenue, as in the case of interest revenue or rental income.

As a practical consideration, there must be a reasonable degree of certainty in measuring the amount of revenue recognized. Problems of measurement may arise in estimating the degree of completion of a contract, the amortized cost or fair value of a receivable or the value of a nonmonetary asset received in an exchange transaction. In some cases, while the revenue may be readily measured, it may be impossible to estimate reasonably the related expenses. In such instances revenue recognition must be deferred until proper periodic income measurement can be achieved.

CA 2-6 (Continued)

- (c) No. The factor apparently relied upon by Lopez Associates is that revenue is recognized as the services giving rise to it are performed. The firm has completed the construction of the building, obtained financing for the project, and secured tenants for most of the space. Management of the project is yet to be rendered and Lopez did not accrue revenue for this service. However, another factor must be considered. Since the fee for Lopez's services has as its source the future profits of the project, on May 31, 2011, there is no way to measure objectively the amount of the fee. Setting the amount at the commercial value of the services might be a reasonable approach were it not for the contingent nature of the source of the fees. That an asset, contracts receivable, exists as a result of this activity is outweighed by the inability to measure it objectively. Revenue recognition at this time is unwarranted because of the contingent nature of the revenue and the likelihood of overstating the assets. Thus, revenue recognition at this point would not be in accordance with international financial reporting standards.

Because revenue cannot be recognized, the related expenses should be deferred so that they can be amortized over the respective periods of revenue recognition. With a reasonable expectation of future benefit, the deferred costs conform to the accounting concept of assets.

CA 2-7

- (a) Some costs are recognized as expenses on the basis of a presumed direct association with specific revenue. This presumed direct association has been identified as the expense recognition principle, or in this case as "associating cause and effect" ("matching concept.")

Direct cause-and-effect relationships can seldom be conclusively demonstrated, but many costs appear to be related to particular revenue, and recognizing them as expenses accompanies recognition of the revenue. Generally, the expense recognition principle requires that the revenue recognized and the expenses incurred to produce the revenue be given concurrent periodic recognition in the accounting records. Only if effort is properly related to accomplishment will the results, called earnings, have useful significance concerning the efficient utilization of business resources. Thus, applying the expense recognition principle is a recognition of the cause-and-effect relationship that exists between expense and revenue.

Examples of expenses that are usually recognized by associating cause and effect are sales commissions, freight-out on merchandise sold, and cost of goods sold or services provided.

- (b) Some costs are assigned as expenses to the current accounting period because
- (1) their incurrence during the period provides no discernible future benefits;
 - (2) they are measures of assets recorded in previous periods from which no future benefits are expected or can be discerned;
 - (3) they must be incurred each accounting year, and no build-up of expected future benefits occurs;
 - (4) by their nature they relate to current revenues even though they cannot be directly associated with any specific revenues;
 - (5) the amount of cost to be deferred can be measured only in an arbitrary manner or great uncertainty exists regarding the realization of future benefits, or both;
 - (6) and uncertainty exists regarding whether allocating them to current and future periods will serve any useful purpose.

Thus, many costs are called "period costs" and are treated as expenses in the period incurred because they have neither a direct relationship with revenue earned nor can their occurrence be directly shown to give rise to an asset. The application of this principle of expense recognition results in charging many costs to expense in the period in which they are paid or accrued for payment. Examples of costs treated as period expenses would include officers' salaries, advertising, research and development, and auditors' fees.

CA 2-7 (Continued)

- (c) A cost should be capitalized, that is, treated as a measure of an asset when it is expected that the asset will produce benefits in future periods. The important concept here is that the incurrence of the cost has resulted in the acquisition of an asset, a future service potential. If a cost is incurred that resulted in the acquisition of an asset from which benefits are not expected beyond the current period, the cost may be expensed as a measure of the service potential that expired in producing the current period's revenues. Not only should the incurrence of the cost result in the acquisition of an asset from which future benefits are expected, but also the cost should be measurable with a reasonable degree of objectivity, and there should be reasonable grounds for associating it with the asset acquired. Examples of costs that should be treated as measures of assets are the costs of merchandise on hand at the end of an accounting period, costs of insurance coverage relating to future periods, and the cost of self-constructed plant or equipment.
- (d) In the absence of a direct basis for associating asset cost with revenue and if the asset provides benefits for two or more accounting periods, its cost should be allocated to these periods (as an expense) in a systematic and rational manner. Thus, when it is impractical, or impossible, to find a close cause-and-effect relationship between revenue and cost, this relationship is often assumed to exist. Therefore, the asset cost is allocated to the accounting periods by some method. The allocation method used should appear reasonable to an unbiased observer and should be followed consistently from period to period. Examples of systematic and rational allocation of asset cost would include depreciation of fixed assets, amortization of intangibles, and allocation of rent and insurance.
- (e) A cost should be treated as a loss when no revenue results. The matching of losses to specific revenue should not be attempted because, by definition, they are expired service potentials not related to revenue produced. That is, losses result from events that are not anticipated as necessary in the process of producing revenue.

There is no simple way of identifying a loss because ascertaining whether a cost should be a loss is often a matter of judgment. The accounting distinction between an asset, expense, loss, and prior period adjustment is not clear-cut. For example, an expense is usually voluntary, planned, and expected as necessary in the generation of revenue. But a loss is a measure of the service potential expired that is considered abnormal, unnecessary, unanticipated, and possibly nonrecurring and is usually not taken into direct consideration in planning the size of the revenue stream.

CA 2-8

- (a) The preferable treatment of the costs of the sample display houses is expensing them over more than one period. These sample display houses are assets because they represent rights to future service potentials or economic benefits.

According to the expense recognition principle, the costs of service potentials should be amortized as the benefits are received. Thus, costs of the sample display houses should be matched with the revenue from the sale of the houses which is receivable over a period of more than one year. As the sample houses are left on display for three to seven years, Daniel Barenboim apparently expects to benefit from the displays for at least that length of time.

CA 2-8 (Continued)

The alternative of expensing the costs of sample display houses in the period in which the expenditure is made is based primarily upon the uncertainty of measurement. These costs are of a promotional nature. Promotional costs often are considered expenses of the period in which the expenditures occur due to the uncertainty in determining the time periods benefited. It is likely that no decision is made concerning the life of a sample display house at the time it is erected. Past experience may provide some guidance in determining the probable life. A decision to tear down or alter a house probably is made when sales begin to lag or when a new model with greater potential becomes available.

There is uncertainty not only as to the life of a sample display house but also as to whether a sample display house will be torn down or altered. If it is altered rather than torn down, a portion of the cost of the original house may be attributable to the new model.

- (b) If all of the shell houses are to be sold at the same price, it may be appropriate to allocate the costs of the display houses on the basis of the number of shell houses sold. This allocation would be similar to the units-of-production method of depreciation and would result in a good matching of costs with revenues. On the other hand, if the shell houses are to be sold at different prices, it may be preferable to allocate costs on the basis of the revenue contribution of the shell houses sold.

There is uncertainty regarding the number of homes of a particular model which will be sold as a result of the display sample. The success of this amortization method is dependent upon accurate estimates of the number and selling price of shell houses to be sold. The estimate of the number of units of a particular model which will be sold as a result of a display model should include not only units sold while the model is on display but also units sold after the display house is torn down or altered.

Cost amortization solely on the basis of time may be preferable when the life of the models can be estimated with a great deal more accuracy than can the number of units which will be sold. If unit sales and selling prices are uniform over the life of the sample, a satisfactory matching of costs and revenues may be achieved if the straight-line amortization procedure is used.

Date

Dear Uncle Carlos,

I received the information on Neville Corp. and appreciate your interest in sharing this venture with me. However, I think that basing an investment decision on these financial statements would be unwise because they are neither relevant nor a faithful presentation.

One of the most important characteristics of accounting information is that it is relevant, i.e., it will make a difference in my decision. To be relevant, this information must have predictive value, confirmatory value, or both. Being timely is also important. Because Neville's financial statements are a year old, they have lost their ability to influence my decision: a lot could have changed in that one year.

As indicated, one element of relevance is predictive value. Neville's accounting information proves irrelevant. Shown without reference to other years' profitability, it cannot help me predict future profitability because I cannot see any trends developing. Closely related to predictive value is confirmatory value. These financial statements do not provide feedback on any strategies which the company may have used to increase profits.

These financial statements also are not faithfully presented. In order to be so, their assertions must be verifiable by several independent parties. Because no independent auditor has verified these amounts, there is no way of knowing whether or not they are represented faithfully. For instance, I would like to believe that this company earned €2,424,240, and that it had a very favorable debt-to-equity ratio. However, unaudited financial statements do not give me any reasonable assurance about these claims.

Finally, the fact that Mrs. Neville herself prepared these statements indicates a lack of neutrality. Because she is not a disinterested third party, I cannot be sure that she did not prepare the financial statements in favor of her husband's business.

I do appreciate the trouble you went through to get me this information. Under the circumstances, however, I do not wish to invest in the Neville bonds and would caution you against doing so. Before you make a decision in this matter, please call me.

Sincerely,

Your Nephew

CA 2-10

- (a) The stakeholders are investors, creditors, etc.; i.e., users of financial statements, current and future.
- (b) Honesty and integrity of financial reporting, job protection, profit.
- (c) Applying the expense recognition principle and recording expense during the plant's life, or not applying it. That is, record the mothball costs in the future.
- (d) The major question may be whether or not the expense of mothballing can be estimated properly so that the integrity of financial reporting is maintained. Applying the expense recognition principle will result in lower profits and possibly higher rates for consumers. Could this cost anyone his or her job? Will investors and creditors have more useful information? On the other hand, failure to apply the matching principle means higher profits, lower rates, and greater potential job security.
- (e) Students' recommendations will vary.

Note: Other stakeholders possibly affected are present and future consumers of electric power. Delay in allocating the expense will benefit today's consumers of electric power at the expense of future consumers.

CA 2-11

1. Information about competitors might be useful for benchmarking the company's results but if management does have expertise in providing the information, it could lack reliability. In addition, it is likely very costly for management to gather sufficiently reliable information of this nature.
2. While users of financial statements might benefit from receiving internal information, such as company plans and budgets, competitors might also be able to use this information to gain a competitive advantage relative to the disclosing company.
3. In order to produce forecasted financial statements, management would have to make numerous assumptions and estimates, which would be costly in terms of time and data collection. Because of the subjectivity involved, the forecasted statements would lack reliability, thereby detracting from any potential benefits. In addition, while management's forecasts of future profitability or statement of financial position amounts could be of benefit, companies could be subject to shareholder lawsuits, if the amounts in the forecasted statements are not realized.
4. It would be excessively costly for companies to gather and report information that is not used in managing the business.
5. Flexible reporting allows companies to "fine-tune" their financial reporting to meet the information needs of its varied users. In this way, they can avoid the cost of providing information that is not demanded by its users.
6. Similar to number 3, concerning forecasted financial statements, if managers report forward-looking information, the company could be exposed to liability if investors unduly rely on the information in making investment decisions. Thus, if companies get protection from unwarranted lawsuits (called a safe harbor), then they might be willing to provide potentially beneficial forward-looking information.

FINANCIAL REPORTING PROBLEM

- (a) According to Note 1—Accounting Policies, “Revenue comprises sales of goods to customers outside the Group less an appropriate deduction for actual and expected returns, discounts and loyalty scheme voucher costs, and is stated net of Value Added Tax and other sales taxes. Sales of furniture and online sales are recorded on delivery to the customer.”
- (b) Most of the information presented in M&S’s financial statements is reported on an historical cost basis. Examples are: Property, Plant, and Equipment, Intangible Assets, Investment Properties, and Inventories (subject to net realizable value). Regarding the use of fair value, some investments and other financial assets are reported at fair value. In addition, the fair value of the company’s financial instruments and the market value of pension assets are disclosed.
- (c) Examination of the auditor’s report. Also, M&S discusses a number of new accounting pronouncements issued or effective during the fiscal year (e.g., IFRS 7, IFRIC 11, IFRIC 14). M&S indicates that they have had or are expected to have a material impact on the financial statements.
- (d) According to the discussion of “Critical accounting estimates and judgements”:

Refunds and loyalty scheme accruals

Accruals for sales returns and loyalty scheme redemption are estimated on the basis of historical returns and redemptions and these are recorded so as to allocate them to the same period as the original revenue is recorded. These provisions are reviewed regularly and updated to reflect management’s latest best estimates, however, actual returns and redemptions could vary from these estimates.

Companies include an expanded discussion of items like Refunds and loyalty schemes because the preparation of financial statements requires estimates and assumptions. However, actual results may differ from these estimates and these estimates and assumptions have a significant risk of causing a material adjustment to the carrying amount of assets and liabilities.

COMPARATIVE ANALYSIS CASE

- (a) Cadbury's financial statements are stated in units of pounds sterling (£—United Kingdom currency). Nestle uses Swiss francs (CHF). Comparability is not a concern when comparing results for each company from one year to the next or when comparing Cadbury (Nestle) to other U.K. (Swiss) companies. There are also no concerns if these companies are compared on the basis of ratios (such as a debt to total assets or return on total assets). This is because the amounts in the numerator and denominator are on the same basis, thereby preserving the relationships. However, when comparing gross amounts, currencies must be translated to provide meaningful comparisons. For example, Nestle reported total 2008 sales of CHF 107,552 million. To compare this to Cadbury, which reported revenue sales of £ 5,384 million, using an exchange rate of 1.56 CHF per £, Cadbury reports CHF 8,399 million ($5,384 \times 1.56$) of revenue in terms of Swiss francs.
- (b) Following demerger of its beverage businesses in 2008, Cadbury is a focused confectionary business. This business is managed based on four regions—Europe, BIMA (Britain, Ireland, Middle East, Africa), Americas, and Asia Pacific. Nestle reports on the basis of two segment formats—by Management Responsibility and Geographic Area (Europe; Americas; Asia, Oceania, and Africa; Nestle Waters, Nestle Nutrition, and Other Food and Beverages) and Product Group (Beverages; Milk and milk products; Prepared dishes and cooking aids; Confectionery; Petcare; and Pharmaceutical products).

For Nestle, Confectionery comprises 11.4% (CHF 12,248 million/CHF 107,552 million) of total sales. All of Cadbury's revenues (£ 5,384 million or CHF 8,399 million) are in confectionery. Cadbury indicates it is No. 2 in the world in confectionery sales (apparently behind Nestle).

- (c) For Cadbury, inventories are recorded at the lower of average cost and estimated net realizable value. Cost comprises direct material and labour costs together with the relevant factory overheads (including depreciation) on the basis of normal activity levels. Amounts are removed from inventory based on the average value of the items of inventory removed.

COMPARATIVE ANALYSIS CASE (Continued)

For Nestle, raw materials and purchased finished goods are valued at purchase cost. Work in progress and manufactured finished goods are valued at production cost. Production cost includes direct production costs and an appropriate proportion of production overheads and factory depreciation. Raw material inventories and purchased finished goods are accounted for using the FIFO (first in, first out) method. The weighted average cost method is used for other inventories. An allowance is established when the net realizable value of any inventory item is lower than the value calculated above.

While both companies value inventory at lower of cost or net realizable value, Nestle values raw materials inventories using FIFO. Depending on the age of inventories, comparisons based on inventory levels may need to be adjusted for this difference.

- (d) Both companies (Cadbury in Note 39; Nestle in Note 1 and Note 32) discuss changes in accounting standards that may affect their reports. Cadbury reports no effects in 2008.

For Nestle, it indicates applying new accounting policies from 1 January 2008 onwards:

IFRIC 14–IAS 19—The limit on a defined benefit asset, minimum funding requirements and their interaction. This interpretation requires companies to determine the availability of refunds or reductions in future contributions in accordance with the terms and conditions of the plans and the statutory requirements of the plans of the respective jurisdictions. The retrospective application of IFRIC 14 impacted the 2007 Consolidated Financial Statements (refer to Note 32).

Reclassification of Financial Assets—Amendments to IAS 39—Financial Instruments: Recognition and Measurement and IFRS 7—Financial Instruments: Disclosures. These amendments allow entities to reclassify non-derivative financial assets from the fair value through profit or loss category if the assets are no longer held for the purpose of selling or repurchasing and if the entity has the intention and ability to hold them for the foreseeable future or until maturity. The Group did not reclassify any financial assets out of the fair value through profit or loss category in 2008.

- (a) The IASB's framework indicates that revenue is to be recognized when it is probable that future economic benefits will flow to the entity and reliable measurement of the amount of revenue is possible. Based on these fundamental concepts of revenue recognition, criteria are then established for various kinds of revenue transactions through the development of related IFRS.
1. For revenue related to sales, Nokia indicates that the criteria are met when it is probable that economic benefits associated with the transaction will flow to the Group and the costs incurred or to be incurred in respect of the transaction can be measured reliably and when the significant risks and rewards of ownership have transferred to the buyer. Thus, it would appear that sales of products are recognized at point of sale.
 2. Revenue from contracts is recognized on the percentage of completion basis, when the outcome of the contract can be estimated reliably. Under this approach Nokia must reassess over the life of the contract whether it is probable that future economic benefits will flow to the entity and reliable measurement of the amount of revenue is possible.
- (b) A number of estimates are required in applying these revenue recognition policies. For example, sales may materially change if management's assessment of such criteria was determined to be inaccurate. Specifically, Nokia makes price protection adjustments based on estimates of future price reductions and certain agreed customer inventories at the date of the price adjustment. Possible changes in these estimates could result in revisions to the sales in future periods. In this case, the revenue amounts will not be faithful representations and they will lack predictive value (not relevant).

FINANCIAL STATEMENT ANALYSIS CASE—NOKIA (Continued)

With respect to revenue from contracts, recognized revenues and profits are subject to revisions during the project in the event that the assumptions regarding the overall project outcome are revised. Current sales and profit estimates for projects may materially change due to the early stage of a long-term project, new technology, changes in the project scope, changes in costs, changes in timing, changes in customers' plans, realization of penalties, and other corresponding factors. Again, the revenue amounts will not be faithful representations and they will lack predictive value (not relevant).

- (c) Even if all phone-makers use the same policy, it still might be difficult to compare their revenue numbers. As indicated in (b), management makes a number of judgments and estimates in determining whether the criteria have been met. For example, if one company's management is more optimistic in estimating the costs to complete a contract, it will recognize more revenue from a contract and it will recognize the revenue earlier. This will result in revenue numbers that are not comparable to another company with a similar contract but whose management used less optimistic estimates.**

ACCOUNTING, ANALYSIS AND PRINCIPLES

ACCOUNTING

CADDIE SHACK COMPANY **Statement of Financial Position** **May 31, 2010**

| <u>Assets</u> | | <u>Owners' equity</u> | |
|---------------|-----------------|----------------------------|-----------------|
| Building | \$ 6,000 | Contributed capital | \$20,000 |
| Equipment | 800 | Retained earnings | 1,650 |
| Cash | <u>15,100</u> | | |
| Total assets | <u>\$21,900</u> | | |
| | | <u>Liabilities</u> | |
| | | Advertising payable | 150 |
| | | Utilities payable | <u>100</u> |
| | | Total liabilities & equity | <u>\$21,900</u> |

Accrual income = \$4,700 – \$1,000 – \$750 – \$400 – \$100 = \$2,450

Retained Earnings balance = \$0 + \$2,450 – \$800 = \$1,650

Murray's might conclude that his business earned a profit of \$2,450 because that is his accrual income for the month. The conclusion that his business lost \$4,900 might come from the change in the business's cash balance, which started at \$20,000 and ended the month at \$15,100.

ANALYSIS

The income measure of \$2,450 is most relevant for assessing the future profitability and hence the payoffs to the owners. For example, charging the cost of the building and equipment to expense in the first month of operations understates income in the first month. These costs should be allocated to future periods of benefit through depreciation expense. Similarly, although not paid, the utilities were used to generate revenues so they should be recognized when incurred, not when paid.

ACCOUNTING, ANALYSIS AND PRINCIPLES (Continued)

PRINCIPLES

IFRS income is the accrual income computed above as \$2,450. The key concept illustrated in the difference between the loss of \$4,900 and profit of \$2,450 is the *expense recognition principle*, which calls for recognition of expenses when incurred, not when paid. Excluding the cash withdrawal from the measurement of income (the difference between income measures in parts c and d) is an application of the definition of basic elements. Cash withdrawals are distributions to owners, not an element of income (expenses or losses).

Search Strings: “materiality”, “completeness”

(a) According to the Framework (para. 30): Information is defined to be material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial statements.

(b) (1) According to the Framework, (para. 29–30):

29 The relevance of information is affected by its nature and materiality. In some cases, the nature of information alone is sufficient to determine its relevance. For example, the reporting of a new segment may affect the assessment of the risks and opportunities facing the entity irrespective of the materiality of the results achieved by the new segment in the reporting period. In other cases, both the nature and materiality are important, for example, the amounts of inventories held in each of the main categories that are appropriate to the business.

30 Information is material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial statements. Materiality depends on the size of the item or error judged in the particular circumstances of its omission or misstatement. Thus, materiality provides a threshold or cut-off point rather than being a primary qualitative characteristic which information must have if it is to be useful.

(2) With respect to Completeness (para. 30):

To be reliable, the information in financial statements must be complete within the bounds of materiality and cost. An omission can cause information to be false or misleading and thus unreliable and deficient in terms of its relevance.

This statement indicates that excluding immaterial items will not affect the completeness of the financial statements.

PROFESSIONAL RESEARCH (Continued)

(c) According to the Framework (para. 22):

Accrual basis

In order to meet their objectives, financial statements are prepared on the accrual basis of accounting. Under this basis, the effects of transactions and other events are recognized when they occur (and not as cash or its equivalent is received or paid) and they are recorded in the accounting records and reported in the financial statements of the periods to which they relate. Financial statements prepared on the accrual basis inform users not only of past transactions involving the payment and receipt of cash but also of obligations to pay cash in the future and of resources that represent cash to be received in the future. Hence, they provide the type of information about past transactions and other events that is most useful to users in making economic decisions.

PROFESSIONAL SIMULATION

Explanation

1. Most accounting methods are based on the assumption that the business enterprise will have a long life. Acceptance of this assumption provides credibility to the historical cost principle, which would be of limited usefulness if liquidation were assumed. Only if we assume some permanence to the enterprise is the use of depreciation and amortization policies justifiable and appropriate. Therefore, it is incorrect to assume liquidation as the company has done in this situation. It should be noted that only where liquidation appears imminent is the going concern assumption inapplicable.
2. Probably the company is too conservative in its accounting for this transaction. The expense recognition principle indicates that expenses should be allocated to the appropriate periods involved. In this case, there appears to be a high uncertainty that the company will have to pay. International Accounting Standard No. 37 requires that a loss should be accrued only (1) when it is probable that the company would lose the suit and (2) the amount of the loss can be reasonably estimated. (Note to instructor: The student will probably be unfamiliar with this IAS. The purpose of this question is to develop some decision framework when the probability of a future event must be assumed.)
3. This entry violates the economic entity assumption. This assumption in accounting indicates that economic activity can be identified with a particular unit of accountability. In this situation, the company erred by charging this cost to the wrong economic entity.

Research

According to the Framework (para. 30): Information is defined to be material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial statements. Materiality depends on the size of the item or error judged in the particular circumstances of its omission or misstatement. Thus, materiality provides a threshold or cut-off point rather than being a primary qualitative characteristic which information must have if it is to be useful.

PROFESSIONAL SIMULATION (Continued)

Furthermore, a context for understanding Materiality is provided in para. 29:

29 The relevance of information is affected by its nature and materiality. In some cases, the nature of information alone is sufficient to determine its relevance. For example, the reporting of a new segment may affect the assessment of the risks and opportunities facing the entity irrespective of the materiality of the results achieved by the new segment in the reporting period. In other cases, both the nature and materiality are important, for example, the amounts of inventories held in each of the main categories that are appropriate to the business.

CHAPTER 3

The Accounting Information System

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems |
|--------------------------------------|---------------|-------------------------|-----------------------|-------------------------------|
| 1. Transaction identification. | 1, 2, 3, 5 | 1, 2 | 1, 2, 3, 4, 17 | 1 |
| 2. Nominal accounts. | 4, 7 | | | |
| 3. Trial balance. | 6, 10 | | 2, 3, 4 | 1, 2, 7 |
| 4. Adjusting entries. | 8, 11, 13, 14 | 3, 4, 5, 6, 7, 8, 9, 10 | 5, 6, 7, 8, 9, 10, 20 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 11 |
| 5. Financial statements. | | | 11, 12, 15, 22, 23 | 1, 2, 4, 6 |
| 6. Closing. | 12 | 11 | 13, 14, 16 | 1, 4, 8, 9, 11 |
| 7. Inventory and cost of goods sold. | 9 | | 12, 14, 15 | |
| 8. Comprehensive accounting cycle. | | | | 1, 2, 6, 11 |
| *9. International convergence. | 15, 16, 17 | | | |
| *10. Cash vs. Accrual Basis. | 18, 19, 20 | 12 | 18, 19 | 10 |
| *11. Reversing entries. | 21 | 13 | 20 | |
| *12. Worksheet. | 22 | | 21, 22, 23 | 11 |

*These topics are dealt with in an Appendix to the Chapter.

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|-------------------------------------------------------------------------------------------|-------------------------|-----------------------|----------------------------|
| 1. Understand basic accounting terminology. | | | |
| 2. Explain double-entry rules. | | | |
| 3. Identify steps in accounting cycle. | | | |
| 4. Record transactions in journals, post to ledger accounts, and prepare a trial balance. | 1, 2, 3, 4, 5, 6, 7 | 1, 2, 3, 4, 17 | 1, 4, 8, 9 |
| 5. Explain the reasons for preparing adjusting entries. | 3, 4, 5, 6, 7, 8, 9, 10 | 5, 6, 7, 8, 9, 10, 20 | 2, 3, 4, 5, 6, 7, 8, 9, 11 |
| 6. Prepare financial statements from the adjusted trail balance. | | 11, 12, 15 | 1, 2, 4, 6, 7, 8, 9, 11 |
| 7. Prepare closing entries. | 11 | 13, 14, 16 | 1, 4, 8, 9, 11 |
| *8. Differentiate the cash basis of accounting from the accrual basis of accounting. | 12 | 18, 19 | 10 |
| *9. Identify adjusting entries that may be reversed. | 13 | 20 | |
| *10. Prepare a 10-column worksheet. | | 21, 22, 23 | 11 |

*These topics are dealt with in an Appendix to the Chapter.

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|----------------------------------------------------------------------------|---------------------|----------------|
| E3-1 | Transaction analysis—service company. | Simple | 15–20 |
| E3-2 | Corrected trial balance. | Simple | 10–15 |
| E3-3 | Corrected trial balance. | Simple | 15–20 |
| E3-4 | Corrected trial balance. | Simple | 10–15 |
| E3-5 | Adjusting entries. | Moderate | 10–15 |
| E3-6 | Adjusting entries. | Moderate | 15–20 |
| E3-7 | Analyze adjusted data. | Complex | 15–20 |
| E3-8 | Adjusting entries. | Moderate | 10–15 |
| E3-9 | Adjusting entries. | Moderate | 15–20 |
| E3-10 | Adjusting entries. | Complex | 25–30 |
| E3-11 | Prepare financial statements. | Moderate | 20–25 |
| E3-12 | Prepare financial statements. | Moderate | 20–25 |
| E3-13 | Closing entries. | Simple | 10–15 |
| E3-14 | Closing entries. | Moderate | 10–15 |
| E3-15 | Missing amounts. | Simple | 10–15 |
| E3-16 | Closing entries for a corporation. | Moderate | 10–15 |
| E3-17 | Transactions of a corporation, including investment and dividend. | Moderate | 10–15 |
| *E3-18 | Cash to accrual basis. | Moderate | 15–20 |
| *E3-19 | Cash to accrual basis. | Moderate | 10–15 |
| *E3-20 | Adjusting and reversing entries. | Complex | 20–25 |
| *E3-21 | Worksheet. | Simple | 10–15 |
| *E3-22 | Worksheet and statement of financial position presentation. | Moderate | 20–25 |
| *E3-23 | Partial worksheet preparation. | Moderate | 10–15 |
| P3-1 | Transactions, financial statements—service company. | Moderate | 25–35 |
| P3-2 | Adjusting entries and financial statements. | Moderate | 35–40 |
| P3-3 | Adjusting entries. | Moderate | 25–30 |
| P3-4 | Financial statements, adjusting and closing entries. | Moderate | 40–50 |
| P3-5 | Adjusting entries. | Moderate | 15–20 |
| P3-6 | Adjusting entries and financial statements. | Moderate | 25–35 |
| P3-7 | Adjusting entries and financial statements. | Moderate | 25–35 |
| P3-8 | Adjusting and closing. | Moderate | 30–40 |
| P3-9 | Adjusting and closing. | Moderate | 30–35 |
| *P3-10 | Cash and accrual basis. | Moderate | 35–40 |
| *P3-11 | Worksheet, statement of financial position, adjusting and closing entries. | Complex | 40–50 |

ANSWERS TO QUESTIONS

1. Examples are:
 - (a) Payment of an accounts payable.
 - (b) Collection of an accounts receivable from a customer.
 - (c) Transfer of an accounts payable to a note payable.
2. Transactions (a), (b), (d) are considered business transactions and are recorded in the accounting records because a change in assets, liabilities, or equity has been effected as a result of a transfer of values from one party to another. Transactions (c) and (e) are not business transactions because a transfer of values has not resulted, nor can the event be considered financial in nature and capable of being expressed in terms of money.
3. Transaction (a): Accounts Receivable (debit), Service Revenue (credit).
Transaction (b): Cash (debit), Accounts Receivable (credit).
Transaction (c): Office Supplies (debit), Accounts Payable (credit).
Transaction (d): Delivery Expense (debit), Cash (credit).
4. Revenue and expense accounts are referred to as temporary or nominal accounts because each period they are closed out to Income Summary in the closing process. Their balances are reduced to zero at the end of the accounting period; therefore, the term temporary or nominal is given to these accounts.
5. Andrea is not correct. The double-entry system means that for every debit amount there must be a credit amount and vice-versa. At least two accounts are affected. It does not mean that each transaction must be recorded twice.
6. Although it is not absolutely necessary that a trial balance be taken periodically, it is customary and desirable. The trial balance accomplishes two principal purposes:
 - (1) It tests the accuracy of the entries in that it proves that debits and credits of an equal amount are in the ledger.
 - (2) It provides a list of ledger accounts and their balances which may be used in preparing the financial statements and in supplying financial data about the concern.
7.
 - (a) Real account; statement of financial position.
 - (b) Real account; statement of financial position.
 - (c) Merchandise inventory is generally considered a real account appearing on the statement of financial position. It has the elements of a nominal account when the periodic inventory system is used. It may appear on the income statement when the multiple-step format is used under a periodic inventory system.
 - (d) Real account; statement of financial position.
 - (e) Real account; statement of financial position.
 - (f) Nominal account; income statement.
 - (g) Nominal account; income statement.
 - (h) Real account; statement of financial position.
8. At December 31, the three days' wages due to the employees represent a current liability. The related expense must be recorded in this period to properly reflect the expense incurred.
9.
 - (a) In a service company, revenues are service revenues and expenses are operating expenses. In a merchandising company, revenues are sales revenues and expenses consist of cost of goods sold plus operating expenses.
 - (b) The measurement process in a merchandising company consists of comparing the sales price of the merchandise inventory to the cost of goods sold and operating expenses.

Questions Chapter 3 (Continued)

10. (a) No change.
 (b) Before closing, balances exist in these accounts; after closing, no balances exist.
 (c) Before closing, balances exist in these accounts; after closing, no balances exist.
 (d) Before closing, a balance exists in this account exclusive of any dividends or the net income or net loss for the period; after closing, the balance is increased or decreased by the amount of net income or net loss, and decreased by dividends declared.
 (e) No change.
11. Adjusting entries are prepared prior to the preparation of financial statements in order to bring the accounts up to date and are necessary (1) to achieve a proper matching of revenues and expenses in measuring income and (2) to achieve an accurate presentation of assets, liabilities and equity.
12. Closing entries are prepared to transfer the balances of nominal accounts to capital (retained earnings) after the adjusting entries have been recorded and the financial statements prepared. Closing entries are necessary to reduce the balances in nominal accounts to zero in order to prepare the accounts for the next period's transactions.
13. $\text{Cost} - \text{Salvage Value} = \text{Depreciable Cost}$: $\$4,000 - \$0 = \$4,000$. $\text{Depreciable Cost} \div \text{Useful Life} = \text{Depreciation Expense For One Year}$ $\$4,000 \div 5 \text{ years} = \800 per year. The asset was used for 6 months (7/1 – 12/31), therefore 1/2-year of depreciation expense should be reported. Annual depreciation $\times 6/12 = \text{amount to be reported on 2010 income statement}$: $\$800 \times 6/12 = \underline{\$400}$.

14.

| | December 31 | |
|----------------------------------------------|-------------|--------|
| Interest Receivable..... | 10,000 | |
| Interest Revenue | | 10,000 |
| (To record accrued interest revenue on loan) | | |

Accrued expenses result from the same causes as accrued revenues. In fact, an accrued expense on the books of one company is an accrued revenue to another company.

15. No, all international companies are not subject to the same internal control standards. All public companies that list their securities on U.S. stock exchanges are subject to the internal control testing and assurance provisions of the Sarbanes-Oxley Act of 2002. International companies that list their securities on non-U.S. exchanges are not subject to these rules and there is debate as to whether they should have to comply.
16. There is concern that the cost of complying with the higher internal control provisions is making U.S. markets less competitive as a place to list securities. This in turn could give U.S. investors less investment opportunities. On the other hand, some argue that the enhanced internal control requirements in the U.S. increase the perceived reliability of companies' financial statements and helps reduce their cost of capital. Furthermore, the decline in public listings in the U.S. are more likely due to other factors, such as growth in non-U.S. markets and general globalization. Thus, the jury is still out on the net cost/benefit of Sarbanes-Oxley and its impact on international competitiveness.
17. As with accounting standards, there are differences in auditing standards across international jurisdictions. In the U.S., auditors of public companies are regulated by the Public Company Accounting Oversight Board (PCAOB). The PCAOB enforces the provisions of the Sarbanes-Oxley Act through its various auditing standards. In the international domain, the auditing standards board is the International Auditing and Assurance Standards Board (IAASB). The IAASB is working on a broad set of international auditing standards but to date does not have a law like Sarbanes-Oxley to guide its work.

Note to instructors—Some instructors may wish to direct students to the IAASB web-site <http://www.ifac.org/iaasb/> to learn more about its work and to compare to the work of the PCAOB—<http://www.pcaobus.org/>.

Questions Chapter 3 (Continued)

- *18.** Under the cash basis of accounting, revenue is recorded only when cash is received and expenses are recorded only when paid. Under the accrual basis of accounting, revenue is recognized when it is earned and expenses are recognized when incurred, without regard to the time of the receipt or payment of cash.

A cash-basis statement of financial position and income statement are incomplete and inaccurate in comparison to accrual-basis financial statements. The accrual basis matches effort (expenses) with accomplishment (revenues) in the income statement while the cash basis only presents cash receipts and cash disbursements. The accrual basis statement of financial position contains receivables, payables, accruals, prepayments, and deferrals while a cash basis statement of financial position shows none of these.

- *19.** Wages paid during the year will include the payment of any wages attributable to the prior year but unpaid at the end of the prior year. This amount is an expense of the prior year and not of the current year, and thus should be subtracted in determining wages expense. Similarly, wages paid during the year will not include any wages attributable to hours worked during the current year but not actually paid until the following year. This should be added in determining wages expense.
- *20.** Although similar to the strict cash basis, the modified cash basis of accounting requires that expenditures for capital items be charged against income over all the periods to be benefited. This is done through conventional accounting methods, such as depreciation and amortization. Under the strict cash basis, expenditures would be recognized as expenses in the period in which the corresponding cash disbursements are made.
- *21.** Reversing entries are made at the beginning of the period to reverse accruals and some deferrals. Reversing entries are not required. They are made to simplify the recording of certain transactions that will occur later in the period. The same results will be attained whether or not reversing entries are recorded.
- *22.** Disagree. A worksheet is not a permanent accounting record and its use is not required in the accounting cycle. The worksheet is an informal device for accumulating and sorting information needed for the financial statements. Its use is optional in helping to prepare financial statements.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 3-1

| | | | | |
|-----|----|--------------------------|-------|-------|
| May | 1 | Cash | 4,000 | |
| | | Share Capital | | 4,000 |
| | 3 | Equipment..... | 1,100 | |
| | | Accounts Payable | | 1,100 |
| | 13 | Rent Expense..... | 400 | |
| | | Cash..... | | 400 |
| | 21 | Accounts Receivable..... | 500 | |
| | | Service Revenue..... | | 500 |

BRIEF EXERCISE 3-2

| | | | | |
|------|----|---------------------------|--------|--------|
| Aug. | 2 | Cash..... | 12,000 | |
| | | Equipment | 2,500 | |
| | | Agazzi, Capital | | 14,500 |
| | 7 | Supplies | 500 | |
| | | Accounts Payable | | 500 |
| | 12 | Cash..... | 1,300 | |
| | | Accounts Receivable | 670 | |
| | | Service Revenue | | 1,970 |

BRIEF EXERCISE 3-2 (Continued)

| | | | |
|----|--------------------------------|-----|-----|
| 15 | Rent Expense..... | 600 | |
| | Cash | | 600 |
| 19 | Supplies Expense..... | 230 | |
| | Supplies (\$500 – \$270) | | 230 |

BRIEF EXERCISE 3-3

| | | | | |
|------|----|----------------------------|--------|--------|
| July | 1 | Prepaid Insurance | 15,000 | |
| | | Cash | | 15,000 |
| Dec. | 31 | Insurance Expense | 2,500 | |
| | | Prepaid Insurance | | |
| | | (€15,000 X 1/2 X 1/3)..... | | 2,500 |

BRIEF EXERCISE 3-4

| | | | | |
|------|----|----------------------------------|--------|--------|
| July | 1 | Cash..... | 15,000 | |
| | | Unearned Insurance Revenue | | 15,000 |
| Dec. | 31 | Unearned Insurance Revenue..... | 2,500 | |
| | | Insurance Revenue | | |
| | | (€15,000 X 1/2 X 1/3)..... | | 2,500 |

BRIEF EXERCISE 3-5

| | | | | |
|------|----|------------------------|--------|--------|
| Feb. | 1 | Prepaid Insurance..... | 72,000 | |
| | | Cash | | 72,000 |
| June | 30 | Insurance Expense..... | 15,000 | |
| | | Prepaid Insurance | | |
| | | (£72,000 X 5/24)..... | | 15,000 |

BRIEF EXERCISE 3-6

| | | | | |
|------|----|-----------------------------|-------|-------|
| Nov. | 1 | Cash..... | 2,400 | |
| | | Unearned Rent Revenue | | 2,400 |
| Dec. | 31 | Unearned Rent Revenue..... | 1,600 | |
| | | Rent Revenue | | |
| | | (\$2,400 X 2/3) | | 1,600 |

BRIEF EXERCISE 3-7

| | | | | |
|------|----|-----------------------|-------|-------|
| Dec. | 31 | Salaries Expense..... | 4,800 | |
| | | Salaries Payable | | |
| | | (\$8,000 X 3/5) | | 4,800 |
| Jan. | 2 | Salaries Payable..... | 4,800 | |
| | | Salaries Expense..... | 3,200 | |
| | | Cash | | 8,000 |

BRIEF EXERCISE 3-8

| | | | | |
|------|----|---------------------------|--------|--------|
| Dec. | 31 | Interest Receivable | 300 | |
| | | Interest Revenue | | 300 |
| Feb. | 1 | Cash | 12,400 | |
| | | Notes Receivable | | 12,000 |
| | | Interest Receivable | | 300 |
| | | Interest Revenue | | 100 |

BRIEF EXERCISE 3-9

| | | | | |
|------|----|---------------------------------------|-------|-------|
| Aug. | 31 | Interest Expense | 300 | |
| | | Interest Payable | | 300 |
| | 31 | Accounts Receivable | 1,400 | |
| | | Service Revenue | | 1,400 |
| | 31 | Salaries Expense | 700 | |
| | | Salaries Payable | | 700 |
| | 31 | Bad Debt Expense | 900 | |
| | | Allowance for Doubtful Accounts | | 900 |

BRIEF EXERCISE 3-10

| | | |
|------------------------------------------------|--------------|----------|
| Depreciation Expense | 2,000 | |
| Accumulated Depreciation—Equipment | | 2,000 |
| Equipment | \$30,000 | |
| Less: Accumulated Depreciation—Equipment | <u>2,000</u> | \$28,000 |

BRIEF EXERCISE 3-11

| | | |
|--------------------------|---------|---------|
| Sales | 808,900 | |
| Interest Revenue | 13,500 | |
| Income Summary | | 822,400 |
| Income Summary | 780,300 | |
| Cost of Goods Sold | | 556,200 |
| Operating Expenses | | 189,000 |
| Income Tax Expense | | 35,100 |
| Income Summary | 42,100 | |
| Retained Earnings | | 42,100 |
| Retained Earnings | 18,900 | |
| Dividends | | 18,900 |

*BRIEF EXERCISE 3-12

| | |
|-------------------------------------------|------------------|
| (a) Cash receipts | \$142,000 |
| + Increase in accounts receivable | |
| (\$18,600 – \$13,000) | <u>5,600</u> |
| Service revenue | <u>\$147,600</u> |
| (b) Payments for operating expenses | \$ 97,000 |
| – Increase in prepaid expenses | |
| (\$23,200 – \$17,500) | <u>(5,700)</u> |
| Operating expenses | <u>\$ 91,300</u> |

***BRIEF EXERCISE 3-13**

| | | | |
|------------|-------------------------------|--------------|--------------|
| (a) | Salaries Payable..... | 4,200 | |
| | Salaries Expense..... | | 4,200 |
| (b) | Salaries Expense | 7,000 | |
| | Cash..... | | 7,000 |
| (c) | Salaries Payable..... | 4,200 | |
| | Salaries Expense | 2,800 | |
| | Cash..... | | 7,000 |

SOLUTIONS TO EXERCISES

EXERCISE 3-1 (15–20 minutes)

| | | | | |
|------|----|-------------------------------|--------|--------|
| Apr. | 2 | Cash..... | 30,000 | |
| | | Equipment | 14,000 | |
| | | Christine Ewing, Capital..... | | 44,000 |
| | 2 | No entry—not a transaction. | | |
| | 3 | Supplies | 700 | |
| | | Accounts Payable | | 700 |
| | 7 | Rent Expense | 600 | |
| | | Cash | | 600 |
| | 11 | Accounts Receivable | 1,100 | |
| | | Service Revenue | | 1,100 |
| | 12 | Cash..... | 3,200 | |
| | | Unearned Service Revenue..... | | 3,200 |
| | 17 | Cash..... | 2,300 | |
| | | Service Revenue | | 2,300 |
| | 21 | Insurance Expense | 110 | |
| | | Cash | | 110 |
| | 30 | Salaries Expense..... | 1,160 | |
| | | Cash | | 1,160 |

EXERCISE 3-1 (Continued)

| | | | |
|----|--------------------------------|-------|-------|
| 30 | Supplies Expense..... | 120 | |
| | Supplies | | 120 |
| 30 | Equipment..... | 5,100 | |
| | Christine Ewing, Capital | | 5,100 |

EXERCISE 3-2 (10–15 minutes)

GERONIMO COMPANY Trial Balance April 30, 2010

| | <u>Debit</u> | <u>Credit</u> |
|-------------------------------------------|----------------|----------------|
| Cash | € 2,100 | |
| Accounts Receivable..... | 2,750 | |
| Prepaid Insurance (€700 + €1,000) | 1,700 | |
| Equipment..... | 8,000 | |
| Accounts Payable (€4,500 – €1,000) | | € 3,500 |
| Property Tax Payable | | 560 |
| Geronimo, Capital (€11,200 + €3,200)..... | | 14,400 |
| Geronimo, Drawing | 3,200 | |
| Service Revenue | | 6,690 |
| Salaries Expense | 4,200 | |
| Advertising Expense (€1,100 + €300) | 1,400 | |
| Property Tax Expense (€800 + €1,000)..... | 1,800 | |
| | <u>€25,150</u> | <u>€25,150</u> |

EXERCISE 3-3 (15–20 minutes)

The ledger accounts are reproduced below, and corrections are shown in the accounts.

| Cash | | | |
|------|-------|-----|-----|
| Bal. | 5,912 | (4) | 190 |
| (1) | 270 | | |

| Accounts Payable | |
|------------------|-------|
| Bal. | 7,044 |

| Accounts Receivable | | | |
|---------------------|-------|-----|-----|
| Bal. | 5,240 | (1) | 270 |

| Share Capital—Ordinary | |
|------------------------|-------|
| Bal. | 8,000 |

| Supplies on Hand | |
|------------------|-------|
| Bal. | 2,967 |

| Retained Earnings | |
|-------------------|-------|
| Bal. | 2,000 |

| Furniture and Equipment | |
|-------------------------|-------|
| Bal. | 6,100 |
| (2) | 1,900 |

| Service Revenue | |
|-----------------|-------|
| Bal. | 5,200 |
| (3) | 2,025 |
| (5) | 80 |

| Office Expense | | | |
|----------------|-------|-----|-------|
| Bal. | 4,320 | (2) | 1,900 |

EXERCISE 3-3 (Continued)

SCARLATTI CORPORATION
Trial Balance (Corrected)
April 30, 2010

| | <u>Debit</u> | <u>Credit</u> |
|------------------------------|-----------------|-----------------|
| Cash | \$ 5,992 | |
| Accounts Receivable..... | 4,970 | |
| Supplies on Hand | 2,967 | |
| Furniture and Equipment..... | 8,000 | |
| Accounts Payable..... | | \$ 7,044 |
| Share Capital—Ordinary | | 8,000 |
| Retained Earnings | | 2,000 |
| Service Revenue | | 7,305 |
| Office Expense | <u>2,420</u> | |
| | <u>\$24,349</u> | <u>\$24,349</u> |

EXERCISE 3-4 (15–20 minutes)

OAKLEY CO.
Trial Balance
June 30, 2010

| | <u>Debit</u> | <u>Credit</u> |
|--------------------------------------------------|-----------------|-----------------|
| Cash (\$2,870 + \$360 – \$65 – \$65) | \$ 3,100 | |
| Accounts Receivable (\$3,231 – \$360) | 2,871 | |
| Supplies (\$800 – \$500) | 300 | |
| Equipment (\$3,800 + \$500) | 4,300 | |
| Accounts Payable (\$2,666 – \$206 – \$260) | | \$ 2,200 |
| Unearned Service Revenue (\$1,200 – \$225) | | 975 |
| Share Capital—Ordinary | | 6,000 |
| Dividends | 575 | |
| Retained Earnings | | 3,000 |
| Service Revenue (\$2,380 + \$801 + \$225) | | 3,406 |
| Wages Expense (\$3,400 + \$670 – \$575) | 3,495 | |
| Office Expense | 940 | |
| | <u>\$15,581</u> | <u>\$15,581</u> |

EXERCISE 3-5 (10–15 minutes)

| | | | |
|----|---------------------------------------------|-------|-------|
| 1. | Depreciation Expense (\$250 X 3) | 750 | |
| | Accumulated Depreciation—Equipment | | 750 |
| 2. | Unearned Rent Revenue (\$6,300 X 1/3) | 2,100 | |
| | Rent Revenue | | 2,100 |
| 3. | Interest Expense | 500 | |
| | Interest Payable | | 500 |

EXERCISE 3-5 (Continued)

| | | | |
|----|------------------------------------|-------|-------|
| 4. | Supplies Expense | 2,150 | |
| | Supplies (\$2,800 – \$650)..... | | 2,150 |
| 5. | Insurance Expense (\$300 X 3)..... | 900 | |
| | Prepaid Insurance | | 900 |

EXERCISE 3-6 (10–15 minutes)

| | | | |
|----|------------------------------------------------|-------|-------|
| 1. | Accounts Receivable | 750 | |
| | Service Revenue | | 750 |
| 2. | Utilities Expense..... | 520 | |
| | Utilities Payable | | 520 |
| 3. | Depreciation Expense..... | 400 | |
| | Accumulated Depreciation—Dental Equipment..... | | 400 |
| | Interest Expense..... | 500 | |
| | Interest Payable | | 500 |
| 4. | Insurance Expense (\$15,000 X 1/12) | 1,250 | |
| | Prepaid Insurance | | 1,250 |
| 5. | Supplies Expense (\$1,600 – \$400) | 1,200 | |
| | Supplies | | 1,200 |

EXERCISE 3-7 (15–20 minutes)

| | |
|--------------------------------------|--------------|
| (a) Ending balance of supplies | £ 900 |
| Add: Adjusting entry | 950 |
| Deduct: Purchases | <u>850</u> |
| Beginning balance of supplies | <u>1,000</u> |

| | | |
|-----------------------------------|--------------|-------------|
| (b) Total prepaid insurance | £4,800 | (£400 X 12) |
| Amount used (6 X £400) | <u>2,400</u> | |
| Present balance | <u>2,400</u> | |

The policy was purchased six months ago (August 1, 2009)

(c) The entry in January to record salaries paid was

| | | |
|------------------------|-------|-------|
| Salaries Expense | 1,800 | |
| Salaries Payable | 900 | |
| Cash | | 2,700 |

The “T” account for salaries payable is

| Salaries Payable | | | |
|------------------|-----|-----------|-----|
| Paid | 900 | Beg. Bal. | ? |
| January | | | |
| | | End Bal. | 800 |

The beginning balance is therefore

| | |
|---------------------------------------------|---------------|
| Ending balance of salaries payable | £ 800 |
| Plus: Reduction of salaries payable | <u>900</u> |
| Beginning balance of salaries payable | <u>£1,700</u> |

EXERCISE 3-7 (Continued)

| | | | |
|-----|----------------------------------------------------|---------------|--|
| (d) | Service revenue..... | £2,000 | |
| | Cash received | <u>1,600</u> | |
| | Unearned revenue reduced | <u>£ 400</u> | |
| | Ending unearned revenue January 31, 2010 | £ 750 | |
| | Plus: Unearned revenue reduced | <u>400</u> | |
| | Beginning unearned revenue December 31, 2009 | <u>£1,150</u> | |

EXERCISE 3-8 (10–15 minutes)

| | | | |
|-----|----------------------------------------------|-------|-------|
| (a) | Wages Expense | 2,900 | |
| | Wages Payable | | 2,900 |
| (b) | Utilities Expense..... | 600 | |
| | Accounts Payable..... | | 600 |
| (c) | Interest Expense (\$60,000 X 8% X 1/12)..... | 400 | |
| | Interest Payable | | 400 |
| (d) | Telephone Expense | 117 | |
| | Accounts Payable..... | | 117 |

EXERCISE 3-9 (15–20 minutes)

| | | | | |
|-----|-------|----------------------------------------------------------------------------------------|-------|-------|
| (a) | 10/15 | Salaries Expense | 800 | |
| | | Cash..... | | 800 |
| | | (To record payment of October 15 payroll) | | |
| | 10/17 | Accounts Receivable..... | 2,100 | |
| | | Service Revenue..... | | 2,100 |
| | | (To record revenue for services performed for which payment has not yet been received) | | |
| | 10/20 | Cash | 650 | |
| | | Unearned Service Revenue | | 650 |
| | | (To record receipt of cash for services not yet performed) | | |
| (b) | 10/31 | Supplies Expense | 470 | |
| | | Supplies..... | | 470 |
| | | (To record the use of supplies during October) | | |
| | 10/31 | Accounts Receivable..... | 1,650 | |
| | | Service Revenue..... | | 1,650 |
| | | (To record revenue for services performed for which payment has not yet been received) | | |
| | 10/31 | Salaries Expense | 600 | |
| | | Salaries Payable | | 600 |
| | | (To record liability for accrued payroll) | | |
| | 10/31 | Unearned Service Revenue | 400 | |
| | | Service Revenue..... | | 400 |
| | | (To reduce the Unearned Service Revenue account for service that has been performed) | | |

EXERCISE 3-10 (25–30 minutes)

| | | | | | |
|-----|----|---------|------------------------------------------------------------------------------------------------|-------|-------|
| (a) | 1. | Aug. 31 | Insurance Expense (¥4,500 X 3/12) | 1,125 | |
| | | | Prepaid Insurance | | 1,125 |
| | 2. | Aug. 31 | Supplies Expense (¥2,600 – ¥650)..... | 1,950 | |
| | | | Supplies..... | | 1,950 |
| | 3. | Aug. 31 | Depreciation Expense—Cottages | 1,080 | |
| | | | Accumulated Depreciation— Cottages..... | | 1,080 |
| | | | (¥120,000 – ¥12,000 = ¥108,000; ¥108,000 X 4% = ¥4,320 per year; ¥4,320 X 3/12 = ¥1,080) | | |
| | | Aug. 31 | Depreciation Expense—Furniture | 360 | |
| | | | Accumulated Depreciation— Furniture | | 360 |
| | | | (¥16,000 – ¥1,600 = ¥14,400; ¥14,400 X 10% = ¥1,440; ¥1,440 X 3/12 = ¥360) | | |
| | 4. | Aug. 31 | Unearned Rent Revenue..... | 3,800 | |
| | | | Rent Revenue | | 3,800 |
| | 5. | Aug. 31 | Salaries Expense..... | 375 | |
| | | | Salaries Payable | | 375 |
| | 6. | Aug. 31 | Accounts Receivable | 800 | |
| | | | Rent Revenue | | 800 |
| | 7. | Aug. 31 | Interest Expense | 1,000 | |
| | | | Interest Payable [(¥50,000 X 8%) X 3/12]..... | | 1,000 |

EXERCISE 3-10 (Continued)

(b)

UHURA RESORT
Adjusted Trial Balance
August 31, 2010

| | <u>Debit</u> | <u>Credit</u> |
|-----------------------------------------------|-----------------|-----------------|
| Cash..... | ¥ 19,600 | |
| Accounts Receivable | 800 | |
| Prepaid Insurance (¥4,500 – ¥1,125) | 3,375 | |
| Supplies (¥2,600 – ¥1,950)..... | 650 | |
| Land | 20,000 | |
| Cottages | 120,000 | |
| Accumulated Depreciation—Cottages..... | | ¥ 1,080 |
| Furniture..... | 16,000 | |
| Accumulated Depreciation—Furniture | | 360 |
| Accounts Payable | | 4,500 |
| Unearned Rent Revenue (¥4,600 – ¥3,800) | | 800 |
| Salaries Payable | | 375 |
| Interest Payable | | 1,000 |
| Mortgage Payable | | 50,000 |
| Share Capital—Ordinary | | 100,000 |
| Retained Earnings | | |
| Dividends | 5,000 | |
| Rent Revenue (¥86,200 + ¥3,800 + ¥800) | | 90,800 |
| Salaries Expense (¥44,800 + ¥375)..... | 45,175 | |
| Utilities Expense..... | 9,200 | |
| Repair Expense..... | 3,600 | |
| Insurance Expense | 1,125 | |
| Supplies Expense | 1,950 | |
| Depreciation Expense—Cottages..... | 1,080 | |
| Depreciation Expense—Furniture | 360 | |
| Interest Expense..... | 1,000 | |
| | <u>¥248,915</u> | <u>¥248,915</u> |

EXERCISE 3-11 (20–25 Minutes)**(a)**

CAVAMANLIS CO.
Income Statement
For the Year Ended December 31, 2010

| | | |
|---------------------------|----------------|------------------------|
| Revenues | | |
| Service revenue | | \$12,590 |
| Expenses | | |
| Salaries expense | \$6,840 | |
| Rent expense..... | 2,760 | |
| Depreciation expense..... | 145 | |
| Interest expense..... | 83 | 9,828 |
| Net Income | | <u>\$ 2,762</u> |

(b)

CAVAMANLIS CO.
Statement of Retained Earnings
For the Year Ended December 31, 2010

| | |
|-------------------------------------|------------------------|
| Retained earnings, January 1 | \$11,310 |
| Add: Net income..... | 2,762 |
| Less: Dividends..... | <u>3,000</u> |
| Retained earnings, December 31..... | <u>\$11,072</u> |

EXERCISE 3-11 (Continued)

(c)

CAVAMANLIS CO. Statement of Financial Position December 31, 2010

| <u>Assets</u> | | | |
|---------------------------------------|---------------|---------------|------------------------|
| Noncurrent assets | | | |
| Property, plant, and equipment | | | |
| Equipment..... | \$18,050 | | |
| Less: Accumulated depreciation | <u>4,895</u> | \$13,155 | |
| Current assets | | | |
| Prepaid rent..... | 2,280 | | |
| Accounts receivable..... | 6,920 | | |
| Cash..... | <u>18,972</u> | | |
| Total current assets..... | | <u>28,172</u> | |
| Total assets | | | <u><u>\$41,327</u></u> |

| <u>Equity and Liabilities</u> | | | |
|-------------------------------------------|----------------|---------------|------------------------|
| Equity | | | |
| Share capital—ordinary | \$20,000 | | |
| Retained earnings | <u>11,072*</u> | \$31,072 | |
| Current liabilities | | | |
| Notes payable | 5,700 | | |
| Accounts payable..... | 4,472 | | |
| Interest payable | <u>83</u> | | |
| Total current liabilities..... | | <u>10,255</u> | |
| Total equity and liabilities | | | <u><u>\$41,327</u></u> |

***Beg. Balance + Net Income – Dividends = Ending Balance**

\$11,310 + \$2,762 – \$3,000 = \$11,072

EXERCISE 3-12 (20–25 Minutes)**(a) FLYNN DESIGN AGENCY****Income Statement****For the Year Ended December 31, 2010**

| | | |
|----------------------------|-----------------|------------------------|
| Revenues | | |
| Advertising revenue | | \$58,500 |
| Expenses | | |
| Salaries expense..... | \$12,300 | |
| Depreciation expense | 7,000 | |
| Rent expense | 4,000 | |
| Art supplies expense..... | 3,400 | |
| Insurance expense | 850 | |
| Interest expense..... | 500 | |
| Total expenses | | <u>28,050</u> |
| Net income | | <u>\$30,450</u> |

FLYNN DESIGN AGENCY**Statement of Retained Earnings****For the Year Ended December 31, 2010**

| | |
|--------------------------------------|------------------------|
| Retained earnings, January 1..... | \$ 3,500 |
| Add: Net income | <u>30,450</u> |
| Retained earnings, December 31 | <u>\$33,950</u> |

EXERCISE 3-12 (Continued)**(a) (Continued)**

FLYNN DESIGN AGENCY
Statement of Financial Position
December 31, 2010

| <u>Assets</u> | | |
|--------------------------------------------------------|---------------|-----------------|
| Printing equipment | \$60,000 | |
| Less: Accumulated depreciation—printing equipment..... | <u>35,000</u> | \$25,000 |
| Art supplies | | 5,000 |
| Prepaid insurance | | 2,500 |
| Accounts receivable | | 21,500 |
| Cash | | <u>10,000</u> |
| Total assets..... | | <u>\$64,000</u> |
| Equity and Liabilities | | |
| Equity | | |
| Share capital—ordinary..... | \$10,000 | |
| Retained earnings | <u>33,950</u> | \$43,950 |
| Liabilities | | |
| Notes payable | 5,000 | |
| Accounts payable..... | 8,000 | |
| Unearned advertising revenue..... | 5,600 | |
| Salaries payable..... | 1,300 | |
| Interest payable..... | <u>150</u> | |
| Total liabilities | | <u>20,050</u> |
| Total equity and liabilities | | <u>\$64,000</u> |

- (b) 1. Based on interest payable at December 31, 2010, interest is \$25 per month or .5% of the note payable. $.5\% \times 12 = 6\%$ interest per year.
2. Salaries Expense, \$12,300 less Salaries Payable 12/31/10, \$1,300 = \$11,000.
Total Payments, \$17,500 – \$11,000 = \$6,500 Salaries Payable 12/31/09.

EXERCISE 3-13 (10–15 Minutes)

| | | | |
|-----|-----------------------------------------|---------------|------------------|
| (a) | Sales | | \$800,000 |
| | Less: Sales returns and allowances..... | \$24,000 | |
| | Sales discount | <u>12,000</u> | <u>36,000</u> |
| | Net sales..... | | <u>\$764,000</u> |
| (b) | Sales | 800,000 | |
| | Income Summary..... | | 800,000 |
| | Income Summary | 36,000 | |
| | Sales Returns and Allowances | | 24,000 |
| | Sales Discounts | | 12,000 |

EXERCISE 3-14 (10–15 minutes)

| | | |
|-----------------------------------|---------|---------|
| Sales | 340,000 | |
| Sales Returns and Allowances..... | | 13,000 |
| Sales Discounts..... | | 8,000 |
| Income Summary | | 319,000 |
| Income Summary..... | 302,000 | |
| Cost of Goods Sold | | 202,000 |
| Freight-out..... | | 7,000 |
| Insurance Expense | | 12,000 |
| Rent Expense | | 20,000 |
| Salary Expense | | 61,000 |
| Income Summary..... | 17,000 | |
| Retained Earnings | | 17,000 |

EXERCISE 3-15 (10–15 minutes)

- (a) \$5,000 (\$90,000 – \$85,000) (d) \$95,000 (\$5,000 + \$90,000)
 (b) \$29,000 (\$85,000 – \$56,000) (e) \$52,000 (\$90,000 – \$38,000)
 (c) \$14,000 (\$29,000 – \$15,000)

EXERCISE 3-16 (10–15 minutes)

| | | |
|-------------------------------------------|----------------|----------------|
| Sales | 390,000 | |
| Cost of Goods Sold..... | | 235,700 |
| Sales Returns and Allowances | | 12,000 |
| Sales Discounts | | 15,000 |
| Selling Expenses | | 16,000 |
| Administrative Expenses | | 38,000 |
| Income Tax Expense | | 30,000 |
| Income Summary..... | | 43,300 |

(or)

| | | |
|-------------------------------------------|----------------|----------------|
| Sales | 390,000 | |
| Income Summary..... | | 390,000 |
| Income Summary | 346,700 | |
| Cost of Goods Sold..... | | 235,700 |
| Sales Returns and Allowances | | 12,000 |
| Sales Discounts | | 15,000 |
| Selling Expenses | | 16,000 |
| Administrative Expenses | | 38,000 |
| Income Tax Expense | | 30,000 |
| Income Summary | 43,300 | |
| Retained Earnings..... | | 43,300 |
| Retained Earnings | 18,000 | |
| Dividends | | 18,000 |

EXERCISE 3-17 (10–15 minutes)

| | | | | |
|------|----|--------------------------------------------|--------|--------|
| Mar. | 1 | Cash | 60,000 | |
| | | Share Capital—Ordinary | | 60,000 |
| | | (Investment of cash in business) | | |
| | 3 | Land | 10,000 | |
| | | Building | 22,000 | |
| | | Equipment | 6,000 | |
| | | Cash | | 38,000 |
| | | (Purchased Michelle Wie's Golf Land) | | |
| | 5 | Advertising Expense | 1,600 | |
| | | Cash | | 1,600 |
| | | (Paid for advertising) | | |
| | 6 | Prepaid Insurance | 1,480 | |
| | | Cash | | 1,480 |
| | | (Paid for one-year insurance policy) | | |
| | 10 | Equipment | 2,500 | |
| | | Accounts Payable | | 2,500 |
| | | (Purchased equipment on account) | | |
| | 18 | Cash | 1,200 | |
| | | Service Revenue | | 1,200 |
| | | (Received cash for services performed) | | |
| | 25 | Dividends | 1,000 | |
| | | Cash | | 1,000 |
| | | (Declared and paid a £1,000 cash dividend) | | |
| | 30 | Wages Expense | 900 | |
| | | Cash | | 900 |
| | | (Paid wages expense) | | |
| | 30 | Accounts Payable | 2,500 | |
| | | Cash | | 2,500 |
| | | (Paid creditor on account) | | |
| | 31 | Cash | 750 | |
| | | Service Revenue | | 750 |
| | | (Received cash for services performed) | | |

***EXERCISE 3-18 (15–20 minutes)**

CORINNE DUNBAR, M.D.
Conversion of Cash Basis to Accrual Basis
For the Year 2010

| | |
|-----------------------------------------------------------------------------|------------------------|
| Excess of cash collected over cash disbursed | |
| (\$142,600 – \$60,470)..... | \$82,130 |
| Add increase in accounts receivable (\$11,250 – \$15,927)..... | 4,677 |
| Deduct increase in unearned service revenue (\$2,840 – \$4,111)..... | (1,271) |
| Add decrease in accrued expenses (\$3,435 – \$2,108)..... | 1,327 |
| Add increase in prepaid expenses (\$1,917 – \$3,232)..... | 1,315 |
| Net income on an accrual basis..... | <u>\$88,178</u> |

Alternate solution:

CORINNE DUNBAR, M.D.
Conversion of Income Statement Data
from Cash Basis to Accrual Basis
For the Year 2010

| | <u>Cash</u> <u>Basis</u> | <u>Adjustments</u> | | <u>Accrual</u> <u>Basis</u> |
|------------------------------------|-----------------------------|--------------------|---------------|--------------------------------|
| | | <u>Add</u> | <u>Deduct</u> | |
| Collections from customers: | \$142,600 | | | |
| –Accounts receivable, Jan. 1 | | | \$11,250 | |
| +Accounts receivable, Dec. 31 | | \$15,927 | | |
| +Unearned service revenue, Jan. 1 | | 2,840 | | |
| –Unearned service revenue, Dec. 31 | | | 4,111 | |
| Service revenue | | | | \$146,006 |
| Disbursements for expenses: | 60,470 | | | |
| –Accrued liabilities, Jan. 1 | | | 3,435 | |
| +Accrued liabilities, Dec. 31 | | 2,108 | | |
| +Prepaid expenses, Jan. 1 | | 1,917 | | |
| –Prepaid expenses, Dec. 31 | | | 3,232 | |
| Operating expenses | | | | <u>57,828</u> |
| Net income—cash basis | <u>\$ 82,130</u> | | | <u>\$ 88,178</u> |
| Net income—accrual basis | | | | |

***EXERCISE 3-19 (10–15 minutes)**

(a) NALEZNY CORP.

**Income Statement (Cash Basis)
For the Year Ended December 31,**

| | <u>2009</u> | <u>2010</u> |
|------------------|------------------|------------------|
| Sales..... | \$290,000 | \$515,000 |
| Expenses | <u>225,000</u> | <u>282,000</u> |
| Net income | <u>\$ 65,000</u> | <u>\$233,000</u> |

(b) NALEZNY CORP.

**Income Statement (Accrual Basis)
For the Year Ended December 31,**

| | <u>2009</u> | <u>2010</u> |
|------------------|------------------|------------------|
| Sales* | \$480,000 | \$445,000 |
| Expenses** | <u>277,000</u> | <u>265,000</u> |
| Net income | <u>\$203,000</u> | <u>\$180,000</u> |

***2009: \$290,000 + \$160,000 + \$30,000 = \$480,000**

2010: \$355,000 + \$90,000 = \$445,000

****2009: \$185,000 + \$67,000 + \$25,000 = \$277,000**

2010: \$40,000 + \$170,000 + \$55,000 = \$265,000

***EXERCISE 3-20 (20–25 minutes)**

(a) Adjusting Entries:

| | | | |
|----|------------------------------------------|-------|-------|
| 1. | Insurance Expense (\$6,000 X 5/24) | 1,250 | |
| | Prepaid Insurance | | 1,250 |
| 2. | Rental Revenue (\$2,400 X 1/3) | 800 | |
| | Unearned Rental Revenue | | 800 |
| 3. | Advertising Materials | 290 | |
| | Advertising Expense | | 290 |
| 4. | Interest Expense | 770 | |
| | Interest Payable | | 770 |

(b) Reversing Entries:

| | | | |
|----|-------------------------------|-----|-----|
| 1. | No reversing entry required. | | |
| 2. | Unearned Rental Revenue | 800 | |
| | Rental Revenue | | 800 |
| 3. | Advertising Expense | 290 | |
| | Advertising Materials | | 290 |
| 4. | Interest Payable | 770 | |
| | Interest Expense | | 770 |

***EXERCISE 3-21 (10–15 minutes)**

| <u>Accounts</u> | <u>Adjusted Trial Balance</u> | | <u>Income Statement</u> | | <u>Statement of Financial Position</u> | |
|------------------------------|-------------------------------|------------|-------------------------|------------|----------------------------------------|------------|
| | <u>Dr.</u> | <u>Cr.</u> | <u>Dr.</u> | <u>Cr.</u> | <u>Dr.</u> | <u>Cr.</u> |
| Cash | 15,000 | | | | 15,000 | |
| Merchandise Inventory | 80,000 | | | | 80,000 | |
| Sales | | 470,000 | | 470,000 | | |
| Sales Returns and Allowances | 10,000 | | 10,000 | | | |
| Sales Discounts | 5,000 | | 5,000 | | | |
| Cost of Goods Sold | 250,000 | | 250,000 | | | |

***EXERCISE 3-22 (20–25 minutes)**

MADRASAH CO.
Worksheet (Partial)
For the Month Ended April 30, 2010

| Account Titles | Adjusted Trial Balance | | Income Statement | | Statement of Financial Position | |
|-----------------------------|-------------------------------|----------------------|-------------------------|----------------------|----------------------------------------|----------------------|
| | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. |
| Cash | 18,972 | | | | 18,972 | |
| Accounts Receivable | 6,920 | | | | 6,920 | |
| Prepaid Rent | 2,280 | | | | 2,280 | |
| Equipment | 18,050 | | | | 18,050 | |
| Accum. Depreciation | | 4,895 | | | | 4,895 |
| Notes Payable | | 5,700 | | | | 5,700 |
| Accounts Payable | | 4,472 | | | | 4,472 |
| Madrasah, Capital | | 34,960 | | | | 34,960 |
| Madrasah, Drawing | 6,650 | | | | 6,650 | |
| Service Revenue | | 12,590 | | 12,590 | | |
| Salaries Expense | 6,840 | | 6,840 | | | |
| Rent Expense | 2,760 | | 2,760 | | | |
| Depreciation Expense | 145 | | 145 | | | |
| Interest Expense | 83 | | 83 | | | |
| Interest Payable | | 83 | | | | 83 |
| Totals | <u>62,700</u> | <u>62,700</u> | <u>9,828</u> | <u>12,590</u> | <u>52,872</u> | <u>50,110</u> |
| Net Income | | | <u>2,762</u> | | | <u>2,762</u> |
| Totals | | | <u>12,590</u> | <u>12,590</u> | <u>52,872</u> | <u>52,872</u> |

***EXERCISE 3-22 (Continued)**

MADRASAH CO.
Statement of Financial Position
April 30, 2010

| <u>Assets</u> | | |
|---------------------------------------|---------------|------------------------|
| Noncurrent Assets | | |
| Property, plant, and equipment | | |
| Equipment..... | \$18,050 | |
| Less Accumulated depreciation..... | <u>4,895</u> | \$13,155 |
| Current Assets | | |
| Prepaid rent..... | 2,280 | |
| Accounts receivable..... | 6,920 | |
| Cash..... | <u>18,972</u> | |
| Total current assets..... | | <u>28,172</u> |
| Total assets..... | | <u>\$41,327</u> |

| <u>Equity and Liabilities</u> | | |
|-------------------------------------------|-----------|------------------------|
| Equity | | |
| Madrasah, Capital | | \$31,072* |
| Current liabilities | | |
| Notes payable..... | \$ 5,700 | |
| Accounts payable | 4,472 | |
| Interest payable | <u>83</u> | |
| Total current liabilities..... | | <u>10,255</u> |
| Total equity and liabilities | | <u>\$41,327</u> |

***Beg. Balance – Drawings + Net Income = Ending Balance**

$$\text{\$34,960} \quad - \quad \text{\$6,650} \quad + \quad \text{\$2,762} \quad = \quad \text{\$31,072}$$

***EXERCISE 3-23 (10–15 minutes)**

LETTERMAN CO.
Worksheet (Partial)
For Month Ended February 28, 2010

| Account Titles | Trial Balance | | Adjustments | | Adjusted Trial Balance | | Income Statement | | Statement of Financial Position | |
|--------------------------|---------------|-------|-------------|-----------|------------------------|-------|------------------|-----|---------------------------------|-------|
| | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. |
| Supplies | 1,756 | | | (a) 1,241 | 515 | | | | 515 | |
| Accumulated Depreciation | | 7,967 | | (b) 257 | | 8,224 | | | | 8,224 |
| Interest Payable | | 150 | | (c) 50 | | 200 | | | | 200 |
| Supplies Expense | | | (a) 1,241 | | 1,241 | | 1,241 | | | |
| Depreciation Expense | | | (b) 257 | | 257 | | 257 | | | |
| Interest Expense | | | (c) 50 | | 50 | | 50 | | | |

The following accounts and amounts would be shown in the February income statement:

| | |
|---------------------------|---------|
| Supplies expense..... | \$1,241 |
| Depreciation expense..... | 257 |
| Interest expense..... | 50 |

TIME AND PURPOSE OF PROBLEMS

Problem 3-1 (Time 25–35 minutes)

Purpose—to provide an opportunity for the student to post daily transactions to a “T” account ledger, take a trial balance, prepare an income statement, a statement of financial position and a statement of changes in equity, close the ledger, and take a post-closing trial balance. The problem deals with routine transactions of a professional service firm and provides a good integration of the accounting process.

Problem 3-2 (Time 35–40 minutes)

Purpose—to provide an opportunity for the student to prepare adjusting entries, and prepare financial statements (income statement, statement of financial position, and statement of retained earnings). The student also is asked to analyze two transactions to find missing amounts.

Problem 3-3 (Time 25–30 minutes)

Purpose—to provide an opportunity for the student to prepare adjusting entries. The adjusting entries are fairly complex in nature.

Problem 3-4 (Time 40–50 minutes)

Purpose—to provide an opportunity for the student to prepare adjusting entries and an adjusted trial balance and then prepare an income statement, a retained earnings statement, and a statement of financial position. In addition, closing entries must be made and a post-closing trial balance prepared.

Problem 3-5 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to determine what adjusting entries need to be made to specific accounts listed in a partial trial balance. The student is also required to determine the amounts of certain revenue and expense items to be reported in the income statement.

Problem 3-6 (Time 25–35 minutes)

Purpose—to provide the student with an opportunity to prepare year-end adjusting entries from a trial balance and related information presented. The problem also requires the student to prepare an income statement, a statement of financial position, and a statement of changes in equity. The problem covers the basics of the end-of-period adjusting process.

Problem 3-7 (Time 25–35 minutes)

Purpose—to provide an opportunity for the student to figure out the year-end adjusting entries that were made from a trial balance and an adjusted trial balance. The student is also required to prepare an income statement, a statement of retained earnings, and a statement of financial position. In addition, the student needs to answer a number of questions related to specific accounts.

Problem 3-8 (Time 30–40 minutes)

Purpose—to provide an opportunity for the student to prepare adjusting, and closing entries. This problem presents basic adjustments including a number of accruals and deferrals. It provides the student with an integrated flow of the year-end accounting process.

Problem 3-9 (Time 30–35 minutes)

Purpose—to provide an opportunity for the student to prepare adjusting and closing entries from a trial balance and related information. The student is also required to post the entries to “T” accounts.

***Problem 3-10** (Time 35–40 minutes)

Purpose—to provide an opportunity for the student to prepare and compare (a) cash basis and accrual basis income statements, (b) cash basis and accrual basis statement of financial position, and (c) to discuss the weaknesses of cash basis accounting.

***Problem 3-11** (Time 40–50 minutes)

Purpose—to provide an opportunity for the student to complete a worksheet and then prepare a classified statement of financial position. In addition, adjusting and closing entries must be made and a post-closing trial balance prepared.

SOLUTIONS TO PROBLEMS

PROBLEM 3-1

(a) (Explanations are omitted.) and (d)

| Cash | | | |
|---------|--------|---------|-------|
| Sept. 1 | 20,000 | Sept. 4 | 680 |
| 8 | 1,690 | 5 | 942 |
| 20 | 980 | 10 | 430 |
| | | 18 | 3,600 |
| | | 19 | 3,000 |
| | | 30 | 1,800 |
| | | 30 | 85 |
| 30 Bal. | 12,133 | | |

| Furniture and Equipment | | | |
|----------------------------|--------|---------|--------|
| Sept. 2 | 17,280 | | |
| Yasunari Kawabata, Capital | | | |
| Sept. 19 | 3,000 | Sept. 1 | 20,000 |
| | | 30 | 6,007 |
| | | Bal. 30 | 23,007 |

| Accounts Receivable | | | |
|---------------------|-------|----------|-----|
| Sept. 14 | 5,820 | Sept. 20 | 980 |
| 25 | 2,110 | | |
| Bal. 30 | 6,950 | | |

| Accounts Payable | | | |
|------------------|-------|---------|--------|
| Sept. 18 | 3,600 | Sept. 2 | 17,280 |
| | | Bal. 30 | 13,680 |

| Rent Expense | | | |
|--------------|------------|----------|------------|
| Sept. 4 | <u>680</u> | Sept. 30 | <u>680</u> |

| Supplies on Hand | | | |
|------------------|-----|----------|-----|
| Sept. 5 | 942 | Sept. 30 | 330 |
| Bal. 30 | 612 | | |

| Service Revenue | | | |
|-----------------|--------------|---------|--------------|
| Sept. 30 | 9,620 | Sept. 8 | 1,690 |
| | | 14 | 5,820 |
| | | 25 | <u>2,110</u> |
| | <u>9,620</u> | | <u>9,620</u> |

| Miscellaneous Office Expense | | | |
|------------------------------|------------|----------|------------|
| Sept. 10 | 430 | Sept. 30 | 515 |
| 30 | <u>85</u> | | |
| | <u>515</u> | | <u>515</u> |

| Accumulated Depreciation | | | |
|--------------------------|--|----------|-----|
| | | Sept. 30 | 288 |

| Office Salaries Expense | | | |
|-------------------------|--------------|----------|--------------|
| Sept. 30 | <u>1,800</u> | Sept. 30 | <u>1,800</u> |

| Supplies Expense | | | |
|------------------|------------|----------|------------|
| Sept. 30 | <u>330</u> | Sept. 30 | <u>330</u> |

PROBLEM 3-1 (Continued)

| Depreciation Expense | | | | | | Income Summary | | | | | |
|----------------------|----|------------|-------|----|------------|----------------|----|--------------|-------|----|--------------|
| Sept. | 30 | <u>288</u> | Sept. | 30 | <u>288</u> | Sept. | 30 | 680 | Sept. | 30 | 9,620 |
| | | | | | | | 30 | 515 | | | |
| | | | | | | | 30 | 1,800 | | | |
| | | | | | | | 30 | 330 | | | |
| | | | | | | | 30 | 288 | | | |
| | | | | | | | 30 | Inc. 6,007 | | | |
| | | | | | | | | <u>9,620</u> | | | <u>9,620</u> |

(b) **YASUNARI KAWABATA, D.D.S.**
Trial Balance
September 30

| | <u>Debit</u> | <u>Credit</u> |
|------------------------------------|----------------|----------------|
| Cash..... | ¥12,133 | |
| Accounts Receivable | 6,950 | |
| Supplies on Hand..... | 612 | |
| Furniture and Equipment..... | 17,280 | |
| Accumulated Depreciation..... | | ¥ 288 |
| Accounts Payable | | 13,680 |
| Yasunari Kawabata, Capital..... | | 17,000 |
| Service Revenue..... | | 9,620 |
| Rent Expense | 680 | |
| Miscellaneous Office Expense | 515 | |
| Office Salaries Expense..... | 1,800 | |
| Supplies Expense | 330 | |
| Depreciation Expense..... | <u>288</u> | |
| Totals | <u>¥40,588</u> | <u>¥40,588</u> |

PROBLEM 3-1 (Continued)

(c)

YASUNARI KAWABATA, D.D.S.

Income Statement

For the Month of September

| | | |
|-------------------------------------------|---------------|----------------------|
| Service revenue | | ¥9,620 |
| Expenses: | | |
| Office salaries expense | ¥1,800 | |
| Rent expense | 680 | |
| Supplies expense | 330 | |
| Depreciation expense | 288 | |
| Miscellaneous office expense | 515 | |
| Total expenses | | <u>3,613</u> |
| Net income..... | | <u>¥6,007</u> |

YASUNARI KAWABATA, D.D.S.

Statement of Owner's Equity

For the Month of September

| | |
|---------------------------------------------|-----------------------|
| Kawabata, Capital September 1 | ¥20,000 |
| Add: Net income for September | <u>6,007</u> |
| | 26,007 |
| Less: Withdrawal by owner..... | <u>3,000</u> |
| Kawabata, Capital September 30 | <u>¥23,007</u> |

PROBLEM 3-1 (Continued)**YASUNARI KAWABATA, D.D.S.****Statement of Financial Position****As of September 30**

| Assets | | Equity and Liabilities | |
|---------------------------|----------------|-------------------------------|----------------|
| Furniture and equip. | ¥17,280 | Yasunari Kawabata, | |
| Accum. depreciation..... | (288) | Capital..... | ¥23,007 |
| Supplies on Hand | 612 | Accounts payable..... | <u>13,680</u> |
| Accounts receivable | 6,950 | | |
| Cash | <u>12,133</u> | Total equity and | |
| Total assets | <u>¥36,687</u> | liabilities..... | <u>¥36,687</u> |

(e)**YASUNARI KAWABATA, D.D.S.****Post-Closing Trial Balance****September 30**

| | <u>Debit</u> | <u>Credit</u> |
|----------------------------------|----------------|----------------|
| Cash | ¥12,133 | |
| Accounts Receivable..... | 6,950 | |
| Supplies on Hand | 612 | |
| Furniture and Equipment | 17,280 | |
| Accumulated Depreciation | | ¥ 288 |
| Accounts Payable..... | | 13,680 |
| Yasunari Kawabata, Capital | | <u>23,007</u> |
| Totals | <u>¥36,975</u> | <u>¥36,975</u> |

| |
|--------------------|
| PROBLEM 3-2 |
|--------------------|

| | | | | |
|-----|---------|-----------------------------------|-------|-------|
| (a) | Dec. 31 | Accounts Receivable..... | 3,500 | |
| | | Advertising Revenue..... | | 3,500 |
| | 31 | Unearned Advertising Revenue..... | 1,400 | |
| | | Advertising Revenue..... | | 1,400 |
| | 31 | Art Supplies Expense..... | 5,400 | |
| | | Art Supplies | | 5,400 |
| | 31 | Depreciation Expense | 5,000 | |
| | | Accumulated Depreciation..... | | 5,000 |
| | 31 | Interest Expense | 150 | |
| | | Interest Payable | | 150 |
| | 31 | Insurance Expense..... | 850 | |
| | | Prepaid Insurance | | 850 |
| | 31 | Salaries Expense | 1,300 | |
| | | Salaries Payable | | 1,300 |

PROBLEM 3-2 (Continued)

(b) MASON ADVERTISING AGENCY
Income Statement
For the Year Ended December 31, 2010

| | | |
|----------------------------|-----------------|------------------------|
| Revenues | | |
| Advertising revenue | | \$63,500 |
| Expenses | | |
| Salaries expense | \$11,300 | |
| Art supplies expense | 5,400 | |
| Depreciation expense | 5,000 | |
| Rent expense | 4,000 | |
| Insurance expense..... | 850 | |
| Interest expense | 500 | |
| Total expenses | | <u>27,050</u> |
| Net income | | <u>\$36,450</u> |

MASON ADVERTISING AGENCY
Statement of Retained Earnings
For the Year Ended December 31, 2010

| | |
|--------------------------------------|------------------------|
| Retained earnings, January 1 | \$ 3,500 |
| Add: Net income | <u>36,450</u> |
| Retained earnings, December 31 | <u>\$39,950</u> |

PROBLEM 3-2 (Continued)

MASON ADVERTISING AGENCY
Statement of Financial Position
December 31, 2010

| <u>Assets</u> | | |
|-----------------------------------------------------------|---------------|------------------------|
| Printing equipment | \$60,000 | |
| Less: Accumulated depreciation—printing equipment..... | <u>33,000</u> | \$27,000 |
| Art supplies | | 3,000 |
| Prepaid insurance | | 2,500 |
| Accounts receivable..... | | 23,500 |
| Cash | | <u>11,000</u> |
| Total assets | | <u>\$67,000</u> |
| Equity and Liabilities | | |
| Equity | | |
| Share capital—ordinary | \$10,000 | |
| Retained earnings..... | <u>39,950</u> | \$49,950 |
| Liabilities | | |
| Notes payable..... | 5,000 | |
| Accounts payable | 5,000 | |
| Unearned advertising revenue | 5,600 | |
| Salaries payable | 1,300 | |
| Interest payable | <u>150</u> | |
| Total liabilities..... | | <u>17,050</u> |
| Total equity and liabilities | | <u>\$67,000</u> |

- (c) 1. Interest is \$50 per month or 1% of the note payable. $1\% \times 12 = 12\%$ interest per year.
2. Salaries Expense, \$11,300 less Salaries Payable 12/31/10, \$1,300 = \$10,000. Total Payments, \$12,500 – \$10,000 = \$2,500 Salaries Payable 12/31/09.

| |
|--------------------|
| PROBLEM 3-3 |
|--------------------|

| | | | | |
|----|---------|------------------------------------------|--------|--------|
| 1. | Dec. 31 | Salaries Expense..... | 2,120 | |
| | | Salaries Payable | | 2,120 |
| | | (5 X \$700 X 2/5) = \$1,400 | | |
| | | (3 X \$600 X 2/5) = 720 | | |
| | | Total accrued salaries <u>\$2,120</u> | | |
| | | | | |
| 2. | 31 | Unearned Rent Revenue..... | 94,000 | |
| | | Rent Revenue..... | | 94,000 |
| | | (5 X \$6,000 X 2) = \$60,000 | | |
| | | (4 X \$8,500 X 1) = 34,000 | | |
| | | Total rent earned <u>\$94,000</u> | | |
| | | | | |
| 3. | 31 | Advertising Expense..... | 4,900 | |
| | | Prepaid Advertising | | 4,900 |
| | | (A650 – \$500 per month | | |
| | | for 8 months) = \$4,000 | | |
| | | (B974 – \$300 per month | | |
| | | for 3 months) = 900 | | |
| | | Total advertising expense <u>\$4,900</u> | | |
| | | | | |
| 4. | 31 | Interest Expense..... | 4,200 | |
| | | Interest Payable | | |
| | | (\$60,000 X 12% X 7/12) | | 4,200 |

| |
|--------------------|
| PROBLEM 3-4 |
|--------------------|

| | | | | |
|-----|---------|---------------------------------------|--------|--------|
| (a) | Nov. 30 | Store Supplies Expense | 4,000 | |
| | | Store Supplies..... | | 4,000 |
| | 30 | Depr. Expense—Store Equipment | 9,000 | |
| | | Accumulated Depreciation— | | |
| | | Store Equipment..... | | 9,000 |
| | 30 | Depr. Expense—Delivery Equipment..... | 6,000 | |
| | | Accumulated Depreciation— | | |
| | | Delivery Equipment | | 6,000 |
| | 30 | Interest Expense | 11,000 | |
| | | Interest Payable | | 11,000 |

PROBLEM 3-4 (Continued)

(b) BELLEMY FASHION CENTER
Adjusted Trial Balance
November 30, 2010

| | Dr. | Cr. |
|------------------------------|-------------------|-------------------|
| Cash..... | € 28,700 | |
| Accounts Receivable | 33,700 | |
| Merchandise Inventory | 45,000 | |
| Store Supplies | 1,500 | |
| Store Equipment..... | 85,000 | |
| Accumulated Depr.— | | |
| Store Equipment | | € 27,000 |
| Delivery Equipment | 48,000 | |
| Accumulated Depr.— | | |
| Delivery Equipment..... | | 12,000 |
| Notes Payable..... | | 51,000 |
| Accounts Payable | | 48,500 |
| Share Capital—Ordinary | | 90,000 |
| Retained Earnings..... | | 8,000 |
| Sales | | 757,200 |
| Sales Returns and | | |
| Allowances..... | 4,200 | |
| Cost of Goods Sold | 495,400 | |
| Salaries Expense..... | 140,000 | |
| Advertising Expense | 26,400 | |
| Utilities Expense..... | 14,000 | |
| Repair Expense..... | 12,100 | |
| Delivery Expense..... | 16,700 | |
| Rent Expense..... | 24,000 | |
| Store Supplies Expense..... | 4,000 | |
| Depreciation Expense— | | |
| Store Equipment | 9,000 | |
| Depreciation Expense— | | |
| Delivery Equipment..... | 6,000 | |
| Interest Expense..... | 11,000 | |
| Interest Payable | | 11,000 |
| Totals..... | <u>€1,004,700</u> | <u>€1,004,700</u> |

PROBLEM 3-4 (Continued)**(c)**

BELLEMY FASHION CENTER
Income Statement
For the Year Ended November 30, 2010

| | | |
|-----------------------------------------|--------------|------------------|
| Sales revenue | | |
| Sales..... | | €757,200 |
| Less: Sales returns and allowances..... | | <u>4,200</u> |
| Net sales | | 753,000 |
| Cost of goods sold | | <u>495,400</u> |
| Gross profit | | 257,600 |
| Operating expenses | | |
| Selling expenses | | |
| Salaries expense | | |
| (€140,000 X 70%) | €98,000 | |
| Advertising expense | 26,400 | |
| Rent expense | | |
| (€24,000 X 80%) | 19,200 | |
| Delivery expense | 16,700 | |
| Utilities expense | | |
| (€14,000 X 80%) | 11,200 | |
| Depr. exp.—store equipment | 9,000 | |
| Depr. exp.—deliv. equipment | 6,000 | |
| Store supplies expense | <u>4,000</u> | 190,500 |
| Administrative expenses | | |
| Salaries expense | | |
| (€140,000 X 30%) | 42,000 | |
| Repair expense | 12,100 | |
| Rent expense | | |
| (€24,000 X 20%) | 4,800 | |
| Utilities expense | | |
| (€14,000 X 20%) | <u>2,800</u> | 61,700 |
| Other income and expense | | |
| Interest expense..... | | <u>11,000</u> |
| Net loss | | <u>(€ 5,600)</u> |

PROBLEM 3-4 (Continued)

BELLEMY FASHION CENTER
Retained Earnings Statement
For the Year Ended November 30, 2010

| | |
|--------------------------------------------|---------------|
| Retained earnings, December 1, 2009..... | €8,000 |
| Less: Net loss..... | <u>5,600</u> |
| Retained earnings, November 30, 2010 | <u>€2,400</u> |

BELLEMY FASHION CENTER
Statement of Financial Position
November 30, 2010

| <u>Assets</u> | | | |
|---------------------------------------|---------------|---------------|-----------------|
| Noncurrent assets | | | |
| Property, plant, and equipment | | | |
| Store equipment..... | \$85,000 | | |
| Accum. depr.—store equipment..... | <u>27,000</u> | €58,000 | |
| Delivery equipment | 48,000 | | |
| Accum. depr.—delivery equipment | <u>12,000</u> | <u>36,000</u> | € 94,000 |
| Current assets | | | |
| Store supplies | | 1,500 | |
| Merchandise inventory | | 45,000 | |
| Accounts receivable | | 33,700 | |
| Cash | | <u>28,700</u> | |
| Total current assets | | | <u>108,900</u> |
| Total assets | | | <u>€202,900</u> |

Equity and Liabilities

| | | | |
|-------------------------------------------|---------------|---------------|-----------------|
| Equity | | | |
| Share capital—ordinary | | €90,000 | |
| Retained earnings..... | | <u>2,400</u> | € 92,400 |
| Noncurrent Liabilities | | | |
| Notes payable | | 21,000 | |
| Current Liabilities | | | |
| Notes payable due next year..... | €30,000 | | |
| Accounts payable | 48,500 | | |
| Interest payable..... | <u>11,000</u> | | |
| Total current liabilities | | <u>89,500</u> | |
| Total liabilities | | | <u>110,500</u> |
| Total equity and liabilities | | | <u>€202,900</u> |

PROBLEM 3-4 (Continued)

| | | | | |
|------------|----------------|------------------------------------------|----------------|----------------|
| (d) | Nov. 30 | Sales..... | 757,200 | |
| | | Income Summary | | 757,200 |
| 30 | | Income Summary..... | 762,800 | |
| | | Sales Returns and Allowances..... | | 4,200 |
| | | Cost of Goods Sold | | 495,400 |
| | | Salaries Expense..... | | 140,000 |
| | | Advertising Expense..... | | 26,400 |
| | | Utilities Expense..... | | 14,000 |
| | | Repair Expense..... | | 12,100 |
| | | Delivery Expense | | 16,700 |
| | | Rent Expense | | 24,000 |
| | | Store Supplies Expense..... | | 4,000 |
| | | Depreciation Expense—Store | | |
| | | Equipment..... | | 9,000 |
| | | Depreciation Expense—Delivery | | |
| | | Equipment..... | | 6,000 |
| | | Interest Expense..... | | 11,000 |
| 30 | | Retained Earnings..... | 5,600 | |
| | | Income Summary | | 5,600 |

PROBLEM 3-4 (Continued)**(e)****BELLEMY FASHION CENTER****Post-Closing Trial Balance****November 30, 2010**

| | <u>Debit</u> | <u>Credit</u> |
|------------------------------------------------------|-----------------|-----------------|
| Cash | € 28,700 | |
| Accounts Receivable | 33,700 | |
| Merchandise Inventory | 45,000 | |
| Store Supplies | 1,500 | |
| Store Equipment | 85,000 | |
| Accumulated Depreciation—Store Equipment..... | | € 27,000 |
| Delivery Equipment | 48,000 | |
| Accumulated Depreciation—Delivery Equipment | | 12,000 |
| Notes Payable | | 51,000 |
| Accounts Payable | | 48,500 |
| Interest Payable | | 11,000 |
| Share Capital—Ordinary | | 90,000 |
| Retained Earnings..... | | <u>2,400</u> |
| | <u>€241,900</u> | <u>€241,900</u> |

PROBLEM 3-5

| | | | |
|--------------------------------------|--------|-----|--------|
| (a) | | -1- | |
| Depreciation Expense | 10,500 | | |
| Accumulated Depreciation—Equipment | | | |
| (1/16 X [\$192,000 – \$24,000])..... | | | 10,500 |
| | | -2- | |
| Interest Expense | 1,440* | | |
| Interest Payable | | | |
| (\$90,000 X 8% X 72/360)..... | | | 1,440* |
| | | -3- | |
| Admissions Revenue..... | 60,000 | | |
| Unearned Admissions Revenue | | | |
| (2,000 X \$30) | | | 60,000 |
| | | -4- | |
| Prepaid Advertising | 1,100 | | |
| Advertising Expense | | | 1,100 |
| | | -5- | |
| Salaries Expense | 4,700 | | |
| Salaries Payable | | | 4,700 |

- (b) 1. Interest expense, \$2,840 (\$1,400 + \$1,440).
 2. Admissions revenue, \$320,000 (\$380,000 – \$60,000).
 3. Advertising expense, \$12,580 (\$13,680 – \$1,100).
 4. Salaries expense, \$62,300 (\$57,600 + \$4,700).

***Note to instructor:** If 30-day months are assumed, interest expense = \$1,400 (\$90,000 X 8% X 70/360).

| |
|--------------------|
| PROBLEM 3-6 |
|--------------------|

| | | | |
|----------------------------------------------------|-------|-------|--|
| (a) | | | |
| | -1- | | |
| Service Revenue..... | 6,000 | | |
| Unearned Service Revenue..... | | 6,000 | |
| | -2- | | |
| Accounts Receivable | 4,900 | | |
| Service Revenue | | 4,900 | |
| | -3- | | |
| Bad Debt Expense | 1,430 | | |
| Allowance for Doubtful Accounts..... | | 1,430 | |
| | -4- | | |
| Insurance Expense | 480 | | |
| Prepaid Insurance | | 480 | |
| | -5- | | |
| Depreciation Expense—Furniture and Equipment | 2,500 | | |
| Accum. Depr.—Furniture and Equipment | | | |
| (\$25,000 X .10) | | 2,500 | |
| | -6- | | |
| Interest Expense..... | 60 | | |
| Interest Payable | | | |
| (\$7,200 X .10 X 30/360)..... | | 60 | |
| | -7- | | |
| Prepaid Rent | 750 | | |
| Rent Expense | | 750 | |
| | -8- | | |
| Office Salaries Expense..... | 2,510 | | |
| Salaries Payable..... | | 2,510 | |

PROBLEM 3-6 (Continued)

(b)

YORKIS PEREZ, CONSULTING ENGINEER

Income Statement

For the Year Ended December 31, 2010

| | | |
|-------------------------------------------------------------|-----------------|------------------------|
| Service revenue (\$100,000 – \$6,000 + \$4,900)..... | | \$98,900 |
| Expenses | | |
| Office salaries expense (\$30,500 + \$2,510)..... | \$33,010 | |
| Rent expense (\$9,750 – \$750)..... | 9,000 | |
| Depreciation expense | 2,500 | |
| Bad debt expense..... | 1,430 | |
| Heat, light, and water expense..... | 1,080 | |
| Miscellaneous office expense..... | 720 | |
| Insurance expense..... | 480 | |
| Interest expense | 60 | |
| Total expenses | | <u>48,280</u> |
| Net income | | <u>\$50,620</u> |

PROBLEM 3-6 (Continued)

YORKIS PEREZ, CONSULTING ENGINEER

Statement of Changes in Equity

For the Year Ended December 31, 2010

| | |
|-------------------------------------------------|------------------------------|
| Yorkis Perez, Capital, January 1 | \$ 52,010^a |
| Add: Net income | 50,620 |
| Less: Withdrawals | <u>17,000</u> |
| Yorkis Perez, Capital, December 31 | <u>\$ 85,630</u> |

| | |
|-----------------------------------------------------------------|------------------------|
| ^(a) Yorkis Perez, Capital—trial balance | \$35,010 |
| Withdrawals during the year | <u>(17,000)</u> |
| Yorkis Perez, Capital, as of January 1, 2010 | <u>\$52,010</u> |

PROBLEM 3-6 (Continued)

YORKIS PEREZ, CONSULTING ENGINEER

Statement of Financial Position

December 31, 2010

| <u>Assets</u> | | | |
|--------------------------------------|----------------|-----------|------------------|
| Noncurrent assets | | | |
| Furniture and equipment | \$25,000 | | |
| Less: Accum. depreciation | <u>8,750**</u> | \$ 16,250 | |
| Current assets | | | |
| Engineering supplies inventory | 1,960 | | |
| Prepaid insurance | | | |
| (\$1,100 – \$480) | 620 | | |
| Prepaid rent | 750 | | |
| Accounts receivable | | | |
| (\$49,600 + \$4,900) | \$54,500 | | |
| Less: Allowance for doubtful | | | |
| accounts | <u>2,180*</u> | 52,320 | |
| Cash | <u>29,500</u> | | |
| Total current assets | | | <u>85,150</u> |
| Total assets | | | <u>\$101,400</u> |
| Equity and Liabilities | | | |
| Equity | | | |
| Yorkis Perez, Capital | | | |
| (\$35,010 + \$50,620) | | \$ 85,630 | |
| Liabilities | | | |
| Current liabilities | | | |
| Notes payable | \$7,200 | | |
| Unearned service revenue | 6,000 | | |
| Salaries payable | 2,510 | | |
| Interest payable | <u>60</u> | 15,770 | |
| Total equity and liabilities | | | <u>\$101,400</u> |

*($\$750 + \$1,430$)

**($\$6,250 + \$2,500$)

| |
|--------------------|
| PROBLEM 3-7 |
|--------------------|

| | | | | |
|-----|---------|--------------------------------|-------|-------|
| (a) | Dec. 31 | Account Receivable | 1,000 | |
| | | Service Revenue | | 1,000 |
| | 31 | Unearned Service Revenue | 1,400 | |
| | | Service Revenue | | 1,400 |
| | 31 | Art Supplies Expense | 5,000 | |
| | | Art Supplies | | 5,000 |
| | 31 | Depreciation Expense | 8,750 | |
| | | Accumulated Depreciation— | | |
| | | Printing Equipment | | 8,750 |
| | 31 | Interest Expense..... | 150 | |
| | | Interest Payable | | 150 |
| | 31 | Insurance Expense | 750 | |
| | | Prepaid Insurance | | 750 |
| | 31 | Salaries Expense..... | 1,500 | |
| | | Salaries Payable | | 1,500 |

PROBLEM 3-7 (Continued)

(b)

SORENSTAM ADVERTISING CORP.
Income Statement
For the Year Ended December 31, 2010

| | | |
|---------------------------|-------------------|-----------------------|
| Revenues | | |
| Service revenue..... | | €61,000 |
| Expenses | | |
| Salaries expense..... | €11,500 | |
| Art supplies expense..... | 10,000 | |
| Depreciation expense..... | 8,750 | |
| Rent expense..... | 4,000 | |
| Insurance expense | 750 | |
| Interest expense..... | <u>500</u> | |
| Total expenses | | <u>35,500</u> |
| Net income..... | | <u>€25,500</u> |

SORENSTAM ADVERTISING CORP.
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|--------------------------------------|-----------------------|
| Retained earnings, January 1 | € 4,500 |
| Add: Net income..... | <u>25,500</u> |
| Retained earnings, December 31 | <u>€30,000</u> |

PROBLEM 3-7 (Continued)**SORENSTAM ADVERTISING CORP.****Statement of Financial Position****December 31, 2010**

| Assets | | |
|--------------------------------------------|---------------|-----------------------|
| Printing equipment..... | €60,000 | |
| Less: Accum. depr.—printing equipment..... | <u>35,750</u> | €24,250 |
| Prepaid insurance..... | | 2,500 |
| Art supplies..... | | 3,500 |
| Accounts receivable | | 20,000 |
| Cash..... | | <u>7,000</u> |
| Total assets..... | | <u>€57,250</u> |
| | | |
| Equity and Liabilities | | |
| Equity | | |
| Share capital—ordinary | €10,000 | |
| Retained earnings | <u>30,000</u> | |
| Total equity | | €40,000 |
| Liabilities | | |
| Notes payable | 5,000 | |
| Accounts payable | 5,000 | |
| Unearned service revenue..... | 5,600 | |
| Salaries payable..... | 1,500 | |
| Interest payable..... | <u>150</u> | |
| Total liabilities..... | | <u>17,250</u> |
| Total equity and liabilities | | <u>€57,250</u> |

PROBLEM 3-7 (Continued)

- (c)
1. **Total depreciable cost = €8,750 X 6 = €52,500.
Salvage value = cost €60,000 less depreciable cost €52,500 = €7,500**
 2. **Based on the balance in interest payable, interest is €50 per month or 1% of the note payable.
1% X 12 = 12% interest per year.**
 3. **Salaries Expense, €11,500 less Salaries Payable 12/31/10, €1,500 = €10,000. Total payments, €12,500 – €10,000 = €2,500 Salaries Payable 12/31/09.**

***PROBLEM 3-8**

(a), (b), (d)

| | | | | | | | | | | | |
|----------------------------|----------------|--------------|------------------------|----------------|---------------|-------------------------|---------------|---------------|----------------|---------------|----------------|
| Cash | | | Prepaid Insurance | | | Salaries Expense | | | | | |
| Bal. | 15,000 | | Bal. | 9,000 | Adj. | 3,500 | Bal. | 80,000 | Close | 83,600 | |
| | | | | <u>5,500</u> | | | Adj. | <u>3,600</u> | | | |
| | | | | | | | | <u>83,600</u> | | <u>83,600</u> | |
| | | | Share Capital—Ordinary | | | | | | | | |
| | | | | Bal. | 400,000 | | | | | | |
| Accounts Receivable | | | Retained Earnings | | | Maintenance Expense | | | | | |
| Bal. | 13,000 | | | Bal. | 82,000 | Bal. | <u>24,000</u> | Close | <u>24,000</u> | | |
| | | | | Inc. | <u>31,640</u> | | | | | | |
| | | | | | 113,640 | | | | | | |
| Allow. for Doubtful Accts. | | | Dues Revenue | | | Depr. Expense—Buildings | | | | | |
| | Bal. | 1,100 | Adj. | 8,900 | Bal. | 200,000 | Adj. | <u>4,000</u> | Close | <u>4,000</u> | |
| | Adj. | <u>460</u> | Cls. | <u>191,100</u> | | | | | | | |
| | | 1,560 | | <u>200,000</u> | | <u>200,000</u> | | | | | |
| | | | | | Rev. | 8,900 | | | | | |
| Land | | | Greens Fee Revenue | | | Depr. Expense—Equipment | | | | | |
| Bal. | 350,000 | | Close | <u>5,900</u> | Bal. | <u>5,900</u> | Adj. | <u>15,000</u> | Close | <u>15,000</u> | |
| Buildings | | | Rental Revenue | | | Accum. Depr.—Equipment | | | | | |
| Bal. | 120,000 | | Close | 19,200 | Bal. | 17,600 | | Bal. | 70,000 | | |
| | | | | | Adj. | <u>1,600</u> | | Adj. | <u>15,000</u> | | |
| | | | | <u>19,200</u> | | <u>19,200</u> | | | <u>85,000</u> | | |
| | | | Rev. | 1,600 | | | | | | | |
| Accum. Depr.—Buildings | | | Utilities Expense | | | Insurance Expense | | | | | |
| | Bal. | 38,400 | Bal. | <u>54,000</u> | Close | <u>54,000</u> | Adj. | <u>3,500</u> | Close | <u>3,500</u> | |
| | Adj. | <u>4,000</u> | | | | | | | | | |
| | | 42,400 | | | | | | | | | |
| Rent Receivable | | | Bad Debt Expense | | | Income Summary | | | | | |
| Adj. | <u>\$1,600</u> | Rev. | <u>1,600</u> | Adj. | <u>460</u> | Close | <u>460</u> | Exp. | 184,560 | Rev. | 216,200 |
| | | | | | | | | Inc. | <u>31,640</u> | | |
| | | | | | | | | | <u>216,200</u> | | <u>216,200</u> |

***PROBLEM 3-8 (Continued)**

| Salaries Payable | | Unearned Dues Revenue | |
|------------------|-------------------|-----------------------|-------------------|
| | Adj. <u>3,600</u> | | Adj. <u>8,900</u> |
| Equipment | | | |
| Bal. | 150,000 | | |

| | | | | |
|--------------------------------------|--|-----|--------|--------|
| (b) | | -1- | | |
| Depreciation Expense—Buildings..... | | | 4,000 | |
| Accumulated Depreciation—Buildings | | | | |
| (1/30 X \$120,000)..... | | | | 4,000 |
| | | -2- | | |
| Depreciation Expense—Equipment | | | 15,000 | |
| Accumulated Depreciation—Equipment | | | | |
| (10% X \$150,000)..... | | | | 15,000 |
| | | -3- | | |
| Insurance Expense | | | 3,500 | |
| Prepaid Insurance..... | | | | 3,500 |
| | | -4- | | |
| Rent Receivable | | | 1,600 | |
| Rental Revenue | | | | |
| (1/11 X \$17,600)..... | | | | 1,600 |
| | | -5- | | |
| Bad Debt Expense..... | | | 460 | |
| Allowance for Doubtful Accounts | | | | |
| [(13,000 X 12%) – \$1,100] | | | | 460 |
| | | -6- | | |
| Salaries Expense | | | 3,600 | |
| Salaries Payable..... | | | | 3,600 |
| | | -7- | | |
| Dues Revenue..... | | | 8,900 | |
| Unearned Dues Revenue..... | | | | 8,900 |

***PROBLEM 3-8 (Continued)**

**(c) CRESTWOOD GOLF CLUB, INC.
Adjusted Trial Balance
December 31, XXXX**

| | <u>Dr.</u> | <u>Cr.</u> |
|---------------------------------------|-------------------------|-------------------------|
| Cash | \$ 15,000 | |
| Accounts Receivable | 13,000 | |
| Allowance for Doubtful Accounts | | \$ 1,560 |
| Prepaid Insurance | 5,500 | |
| Land | 350,000 | |
| Building | 120,000 | |
| Accum. Depreciation—Buildings | | 42,400 |
| Equipment | 150,000 | |
| Accum. Depreciation—Equipment | | 85,000 |
| Salaries Payable | | 3,600 |
| Share Capital—Ordinary | | 400,000 |
| Retained Earnings | | 82,000 |
| Dues Revenue | | 191,100 |
| Greens Fee Revenue | | 5,900 |
| Rental Revenue | | 19,200 |
| Utilities Expense | 54,000 | |
| Salaries Expense | 83,600 | |
| Maintenance Expense | 24,000 | |
| Bad Debt Expense | 460 | |
| Unearned Dues Revenue | | 8,900 |
| Rent Receivable | 1,600 | |
| Depreciation Expense—Buildings | 4,000 | |
| Depreciation Expense—Equipment | 15,000 | |
| Insurance Expense | 3,500 | |
| Totals | <u>\$839,660</u> | <u>\$839,660</u> |

***PROBLEM 3-8 (Continued)**

| | | | |
|---------------------------------------------|------------------|----------------|--|
| (d) | -Dec. 31- | | |
| Dues Revenue..... | 191,100 | | |
| Greens Fee Revenue | 5,900 | | |
| Rental Revenue | 19,200 | | |
| Income Summary | | 216,200 | |
| | -31- | | |
| Income Summary..... | 184,560 | | |
| Utilities Expense | | 54,000 | |
| Bad Debt Expense | | 460 | |
| Salaries Expense | | 83,600 | |
| Maintenance Expense | | 24,000 | |
| Depreciation Expense—Buildings | | 4,000 | |
| Depreciation Expense—Equipment..... | | 15,000 | |
| Insurance Expense..... | | 3,500 | |
| | -31- | | |
| Income Summary..... | 31,640 | | |
| Retained Earnings | | 31,640 | |

***PROBLEM 3-9**

(a), (b), (c)

| | | | | | |
|-------------------------------|--------------------|--------------------------------------|----------------|-----------------------------------|----------------|
| Cash | | Accounts Receivable | | Allow. for Doubtful Accts. | |
| Bal. | 18,500 | Bal. | 32,000 | Bal. | 700 |
| | | | | Adj. | <u>1,400</u> |
| | | | | | <u>2,100</u> |
| Inventory | | Furniture & Equipment | | Accum. Depr.—F. & E. | |
| Bal. | 80,000 | Bal. | 84,000 | Bal. | 35,000 |
| | | | | Adj. | <u>12,000</u> |
| | | | | | <u>47,000</u> |
| Prepaid Insurance | | Notes Payable | | Admin. Salaries Expense | |
| Bal. | 5,100 | Bal. | 28,000 | Bal. | <u>65,000</u> |
| Adj. | <u>2,550</u> | | | Cls. | <u>65,000</u> |
| | <u>2,550</u> | | | | |
| Share Capital—Ordinary | | Sales | | Insurance Expense | |
| | Bal. 80,600 | Cls. | <u>600,000</u> | Adj. | <u>2,550</u> |
| | | Bal. | <u>600,000</u> | Cls. | <u>2,550</u> |
| Sales Salaries Expense | | Advertising Expense | | Interest Expense | |
| Bal. | 50,000 | Bal. | 6,700 | Adj. | <u>3,360</u> |
| Cls. | 52,400 | Adj. | 700 | Cls. | <u>3,360</u> |
| Adj. | <u>2,400</u> | Cls. | <u>6,000</u> | | |
| | <u>52,400</u> | | <u>6,700</u> | | |
| Bad Debt Expense | | Office Expense | | Prepaid Advertising | |
| Adj. | <u>1,400</u> | Bal. | 5,000 | Adj. | 700 |
| Cls. | <u>1,400</u> | Adj. | 1,500 | | |
| | | Cls. | <u>3,500</u> | | |
| | | | <u>5,000</u> | | |
| Interest Payable | | Depr. Exp.—Furn. & Equip. | | Income Summary | |
| | Adj. 3,360 | Adj. | <u>12,000</u> | Exp. | 554,210 |
| | | Cls. | <u>12,000</u> | Inc. | <u>45,790</u> |
| | | | | | <u>600,000</u> |
| Office Supplies | | Salaries Payable | | | |
| Adj. | 1,500 | Adj. | 2,400 | | |
| Retained Earnings | | Cost of Goods Sold | | | |
| | Bal. 10,000 | Bal. | <u>408,000</u> | | |
| | Inc. <u>45,790</u> | Cls. | <u>408,000</u> | | |
| | Bal. <u>55,790</u> | | | | |

***PROBLEM 3-9 (Continued)**

| | | | | |
|------------|------------------------------------------------------------------------------|------------|---------------|---------------|
| (b) | | -1- | | |
| | Bad Debt Expense | | 1,400 | |
| | Allowance for Doubtful Accounts | | | 1,400 |
| | | -2- | | |
| | Depreciation Expense—Furniture and Equipment (\$84,000 ÷ 7) | | 12,000 | |
| | Accum. Depr.—Furniture and Equipment | | | 12,000 |
| | | -3- | | |
| | Insurance Expense | | 2,550 | |
| | Prepaid Insurance | | | 2,550 |
| | | -4- | | |
| | Interest Expense | | 3,360 | |
| | Interest Payable | | | 3,360 |
| | | -5- | | |
| | Sales Salaries Expense | | 2,400 | |
| | Salaries Payable | | | 2,400 |
| | | -6- | | |
| | Prepaid Advertising Expense | | 700 | |
| | Advertising Expense | | | 700 |
| | | -7- | | |
| | Office Supplies | | 1,500 | |
| | Office Expense | | | 1,500 |

***PROBLEM 3-9 (Continued)**

| | | | |
|-----------------------------|----------------|----------------|----------------|
| (c) | Dec. 31 | | |
| Sales | | 600,000 | |
| Income Summary | | | 600,000 |

| | | | |
|---------------------------------------------------------------|----------------|----------------|--|
| | Dec. 31 | | |
| Income Summary | 554,210 | | |
| Cost of Goods Sold | | 408,000 | |
| Advertising Expense | | 6,000 | |
| Administrative Salaries Expense | | 65,000 | |
| Sales Salaries Expense | | 52,400 | |
| Office Expense | | 3,500 | |
| Insurance Expense | | 2,550 | |
| Bad Debt Expense | | 1,400 | |
| Depreciation Expense—Furniture and Equipment | | 12,000 | |
| Interest Expense | | 3,360 | |

| | | | |
|--------------------------------|----------------|--|---------------|
| | Dec. 31 | | |
| Income Summary | 45,790 | | |
| Retained Earnings | | | 45,790 |

***PROBLEM 3-10**

(a)

LAKELAND SALES AND SERVICE
Income Statement
For the Month Ended January 31, 2010

| | (1) <u>Cash Basis</u> | (2) <u>Accrual Basis</u> |
|--------------------------------|--------------------------|-----------------------------|
| Revenues | £ 75,000 | £98,400* |
| Expenses | | |
| Cost of computers & printers: | | |
| Purchased and paid | 82,500** | |
| Cost of goods sold | | 59,500*** |
| Salaries | 9,600 | 12,600 |
| Rent | 6,000 | 2,000 |
| Other operating expenses | <u>8,400</u> | <u>10,400</u> |
| Total expenses | <u>106,500</u> | <u>84,500</u> |
| Net income (loss) | <u>£(31,500)</u> | <u>£13,900</u> |

* (£2,550 X 30) + (£3,600 X 4) + (£500 X 15)

** (£1,500 X 40) + (£2,500 X 6) + (£300 X 25)

*** (£1,500 X 30) + (£2,500 X 4) + (£300 X 15)

***PROBLEM 3-10 (Continued)**

(b) LAKELAND SALES AND SERVICE
Statement of Financial Position
As of January 31, 2010

| | (1) <u>Cash Basis</u> | (2) <u>Accrual Basis</u> |
|-------------------------------------------|----------------------------------------|-------------------------------------------|
| <u>Assets</u> | | |
| Cash..... | £58,500 ^a | £ 58,500 ^a |
| Accounts Receivable | | 23,400 |
| Inventory | | 23,000 ^b |
| Prepaid rent..... | | <u>4,000</u> |
| Total assets..... | <u>£58,500</u> | <u>£108,900</u> |
| <u>Equity and Liabilities</u> | | |
| Equity | £58,500 ^c | £103,900 ^d |
| Salaries payable | | 3,000 |
| Accounts payable | | <u>2,000</u> |
| Total equity and liabilities | <u>£58,500</u> | <u>£108,900</u> |

| | |
|----------------------------------|-----------------|
| ^a Original investment | £ 90,000 |
| Cash sales | 75,000 |
| Cash purchases | (82,500) |
| Rent paid | (6,000) |
| Salaries paid | (9,600) |
| Other operating expenses | <u>(8,400)</u> |
| Cash balance Jan. 31 | <u>£ 58,500</u> |

^b(10 @ £1,500) + (2 @ £2,500) + (10 @ £300).

^cInitial investment minus net loss: £90,000 – £31,500.

^dInitial investment plus net income: £90,000 + £13,900.

***PROBLEM 3-10 (Continued)**

- (c)
1. The £23,400 in receivables from customers is an asset and a future cash flow resulting from sales that is ignored. The cash basis understates the amount of revenues and inflow of assets in January from the sale of computers and printers by £23,400.
 2. The cost of computers and printers sold in January is overstated by £23,000. The unsold computers and printers are an asset of £23,000 in the form of inventory.
 3. The cash basis ignores £3,000 of the salaries that have been earned by the employees in January and will be paid in February.
 4. Rent expense on the cash basis is overstated by £4,000 under the cash basis. This prepayment is an asset in the form of two months' future right to the use of office, showroom, and repair space and should appear on the balance sheet.
 5. Other operating expenses on a cash basis are understated by £2,000 as is the liability for the unpaid portion of these expenses incurred in January.

(a)

COOKE COMPANY

Worksheet

For the Year Ended September 30, 2010

*PROBLEM 3-11

| Account Titles | Trial Balance | | Adjustments | | Adjusted Trial Balance | | Income Statement | | Statement of Financial Position | |
|----------------------|----------------|----------------|-------------|---------------|------------------------|----------------|------------------|----------------|---------------------------------|----------------|
| | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. |
| Cash | 37,400 | | | | 37,400 | | | | 37,400 | |
| Supplies | 18,600 | | (b) | 14,400 | 4,200 | | | | 4,200 | |
| Prepaid Insurance | 31,900 | | (a) | 28,000 | 3,900 | | | | 3,900 | |
| Land | 80,000 | | | | 80,000 | | | | 80,000 | |
| Equipment | 120,000 | | | | 120,000 | | | | 120,000 | |
| Accum. Depreciation | | 36,200 | (c) | 5,800 | | 42,000 | | | | 42,000 |
| Accounts Payable | | 14,600 | | | | 14,600 | | | | 14,600 |
| Unearned Ad. Rev. | | 2,700 | (d) | 2,000 | | 700 | | | | 700 |
| Mortgage Payable | | 50,000 | | | | 50,000 | | | | 50,000 |
| Cooke, Capital | | 109,700 | | | | 109,700 | | | | 109,700 |
| Cooke, Drawing | 14,000 | | | | 14,000 | | | | 14,000 | |
| Admissions Revenue | | 278,500 | (d) | 2,000 | | 280,500 | | | | 280,500 |
| Salaries Expense | 109,000 | | | | 109,000 | | 109,000 | | | |
| Repair Expense | 30,500 | | | | 30,500 | | 30,500 | | | |
| Advertising Expense | 9,400 | | | | 9,400 | | 9,400 | | | |
| Utilities Expense | 16,900 | | | | 16,900 | | 16,900 | | | |
| Prop. Taxes Expense | 18,000 | | (e) | 3,000 | 21,000 | | 21,000 | | | |
| Interest Expense | 6,000 | | (f) | 6,000 | 12,000 | | 12,000 | | | |
| Totals | 491,700 | 491,700 | | | | | | | | |
| Insurance Expense | | | (a) | 28,000 | 28,000 | | 28,000 | | | |
| Supplies Expense | | | (b) | 14,400 | 14,400 | | 14,400 | | | |
| Interest Payable | | | (f) | 6,000 | | 6,000 | | | | 6,000 |
| Depreciation Expense | | | (c) | 5,800 | 5,800 | | 5,800 | | | |
| Prop. Taxes Payable | | | (e) | 3,000 | | 3,000 | | | | 3,000 |
| Totals | | | | 59,200 | 59,200 | 506,500 | 506,500 | 247,000 | 280,500 | 226,000 |
| Net Income | | | | | | | | 33,500 | | 33,500 |
| Totals | | | | | | 280,500 | 280,500 | | 259,500 | 259,500 |

Key: (a) Expired Insurance; (b) Supplies Used; (c) Depreciation Expensed; (d) Admission Revenue Earned; (e) Accrued Property Taxes; (f) Accrued Interest Payable.

***PROBLEM 3-11 (Continued)**

(b)

COOKE COMPANY
Statement of Financial Position
September 30, 2010

| <u>Assets</u> | | | |
|--------------------------------------------------------|---------------|---------------|-------------------------|
| Noncurrent assets | | | |
| Property, plant, and equipment | | | |
| Land | | \$80,000 | |
| Equipment | \$120,000 | | |
| Less: Accum. depreciation..... | <u>42,000</u> | <u>78,000</u> | \$158,000 |
| Current assets | | | |
| Supplies | | 4,200 | |
| Prepaid insurance..... | | 3,900 | |
| Cash..... | | <u>37,400</u> | |
| Total current assets..... | | | <u>45,500</u> |
| Total assets | | | <u>\$203,500</u> |
| Equity and Liabilities | | | |
| Equity | | | |
| Cooke, Capital (\$109,700 + \$33,500 – \$14,000) | | | \$129,200 |
| Liabilities | | | |
| Mortgage payable | | \$40,000 | |
| Current liabilities | | | |
| Accounts payable | \$14,600 | | |
| Current maturity of long-term debt | 10,000 | | |
| Interest payable | 6,000 | | |
| Property taxes payable | 3,000 | | |
| Unearned admissions revenue..... | <u>700</u> | | |
| Total current liabilities..... | | <u>34,300</u> | |
| Total liabilities | | | <u>74,300</u> |
| Total equity and liabilities | | | <u>\$203,500</u> |

***PROBLEM 3-11 (Continued)**

| | | | | |
|-----|---------|----------------------------------|---------|---------|
| (c) | Sep. 30 | Insurance Expense | 28,000 | |
| | | Prepaid Insurance | | 28,000 |
| | 30 | Supplies Expense | 14,400 | |
| | | Supplies | | 14,400 |
| | 30 | Depreciation Expense | 5,800 | |
| | | Accum. Depreciation | | 5,800 |
| | 30 | Unearned Admissions Revenue..... | 2,000 | |
| | | Admissions Revenue | | 2,000 |
| | 30 | Property Taxes Expense..... | 3,000 | |
| | | Property Taxes Payable | | 3,000 |
| | 30 | Interest Expense..... | 6,000 | |
| | | Interest Payable | | 6,000 |
| (d) | Sep. 30 | Admissions Revenue | 280,500 | |
| | | Income Summary..... | | 280,500 |
| | 30 | Income Summary | 247,000 | |
| | | Salaries Expense | | 109,000 |
| | | Repair Expense | | 30,500 |
| | | Insurance Expense | | 28,000 |
| | | Property Taxes Expense | | 21,000 |
| | | Supplies Expense..... | | 14,400 |
| | | Utilities Expense | | 16,900 |
| | | Interest Expense | | 12,000 |
| | | Advertising Expense | | 9,400 |
| | | Depreciation Expense | | 5,800 |

***PROBLEM 3-11 (Continued)**

| | | | |
|----|----------------------|--------|--------|
| 30 | Income Summary | 33,500 | |
| | Cooke, Capital | | 33,500 |
| 30 | Cooke, Capital | 14,000 | |
| | Cooke, Drawing | | 14,000 |

(e)

COOKE COMPANY
Post-Closing Trial Balance
September 30, 2010

| | <u>Debit</u> | <u>Credit</u> |
|-----------------------------------|------------------|------------------|
| Cash | \$ 37,400 | |
| Supplies | 4,200 | |
| Prepaid Insurance | 3,900 | |
| Land | 80,000 | |
| Equipment | 120,000 | |
| Accumulated Depreciation | | \$ 42,000 |
| Accounts Payable | | 14,600 |
| Unearned Admissions Revenue | | 700 |
| Interest Payable | | 6,000 |
| Property Taxes Payable | | 3,000 |
| Mortgage Payable | | 50,000 |
| Cooke, Capital | | 129,200 |
| | <u>\$245,500</u> | <u>\$245,500</u> |

FINANCIAL REPORTING PROBLEM

- (a) **March 29, 2008 total assets: £7,161 million.
March 31, 2007 total assets: £5,381 million.**
- (b) **March 29, 2008 cash and cash equivalents: £318 million.**
- (c) **2008 selling and marketing expenses: £1,912.7 million.
2007 selling and marketing expenses: £1,779.2 million.**
- (d) **2008 revenues: £9,022.0 million.
2007 revenues: £8,588.1 million.**
- (e) **An adjusting entry for deferrals is necessary when the receipt/disbursement precedes the recognition in the financial statements. Accounts such as prepaid pension contributions and prepaid leasehold premiums are included in the Trade and other receivables section (£410.0 million at March 29, 2008). Both of these accounts would require an adjusting entry to recognize the proper amount of expense incurred during the period. In addition, depreciation expense is an adjusting entry related to a deferral.**

An adjusting entry for an accrual is necessary when recognition in the financial statements precedes the cash receipt/disbursement, such as interest or taxes payable. Other adjusting entries probably made by M&S include finance income and finance costs and bank and other interest receivable and interest payable.
- (f) **2007 Depreciation and amortization expense: £282.7 million
2008 Depreciation and amortization expense: £317.6 million**

COMPARATIVE ANALYSIS CASE

- (a) Cadbury's percentage decrease is computed as follows:

| | |
|---------------------------------------|------------------|
| Total assets (December 31, 2008)..... | £ 8,895 |
| Total assets (December 31, 2007)..... | <u>(£11,338)</u> |
| Difference..... | <u>£ (2,443)</u> |

$$£(2,443) \div £11,338 = \underline{(21.5)\%}$$

Nestle's percentage decrease is computed as follows:

| | |
|---------------------------------------|--------------------|
| Total assets (December 31, 2008)..... | CHF 106,215 |
| Total assets (December 31, 2007)..... | <u>(115,361)</u> |
| Difference..... | <u>CHF (9,146)</u> |

$$(9,146) \div 115,361 = \underline{(7.9)\%}$$

Cadbury suffered the larger decrease.

- (b) Cadbury reported an £84 million profit from discontinued operations, which represented almost 21% of its profit from continuing operations. Reporting a discontinued operations this large may make comparisons between companies difficult. Since discontinued operations are considered to be nonrecurring, they should be excluded before comparing results between the two companies.

COMPARATIVE ANALYSIS CASE (Continued)

- (c) Cadbury had depreciation and amortization expense of £244 million (52% of operating cash flow); Nestle had depreciation and amortization expense of 3,249 CHF million (30% of operating cash flow).

Nestle has substantially more property, plant, and equipment and intangible assets than does Cadbury. Amortizable intangible assets for Cadbury and Nestle increase the amount of amortization expense recorded in income. The amount of property, plant, and equipment and amortizable intangible assets reported for these two companies is as follows:

| | <u>Cadbury</u> | <u>Nestle</u> |
|--------------------------------------|-----------------------|------------------------|
| Property, plant, and equipment (net) | £1,761,000,000 | £21,097,000,000 |
| Amortizable intangible assets (net) | <u>1,685,000,000</u> | <u>6,867,000,000</u> |
| | <u>£3,446,000,000</u> | <u>£27,964,000,000</u> |

FINANCIAL STATEMENT ANALYSIS CASE

Vodafone

| (a) | | | | % Change | % Change | |
|-----|--------------------------|----------|----------|-----------|----------|----------|
| | Vodafone Group plc | 2009 | 2008 | 2007 | 2009 | 2008 |
| | Revenues | £ 41,017 | £ 35,478 | £ 31,104 | 15.61% | 14.06% |
| | Gross Profit % | 37.00% | 38.30% | 39.80% | −3.39% | −3.77% |
| | Operating Profit | £ 5,857 | £ 10,047 | (£ 1,564) | −41.70% | −742.39% |
| | Operating Cash Flow less | | | | | |
| | Capital Expenditures | 7,009 | 6,622 | 6,695 | 5.84% | −1.09% |
| | Profit (Loss) | 3,080 | 6,756 | (5,222) | −54.41% | −229.38% |

- (b) Except for an increase in Revenues, Vodafone's earnings performance has been declining; gross profit, operating profit, and net income (profit) have declined in 2009. Note that 2007 was a very poor year; but after some improvement in 2008, things have turned a bit to the negative. One promising development is the cash flow measure, which is on the increase. So while Vodafone may be able to deliver on its free-cash-flow generation objective, the earnings performance does not give a good signal that Vodafone has been or will be able to deliver on operating performance and growth opportunities.

ACCOUNTING ANALYSIS, AND PRINCIPLES

ACCOUNTING

| | | |
|------------------------------------------|-------|-------|
| Depreciation Expense | 9,500 | |
| Accumulated Depreciation—Equipment | | 9,500 |

$$\$9,500 = (\$192,000 - \$40,000) \div 16$$

| | | |
|------------------------|-------|-------|
| Interest Expense | 8,250 | |
| Interest Payable | | 8,250 |

$$\$8,250 = (\$90,000 \times 0.10) \times 11/12$$

| | | |
|------------------------------|--------|--------|
| Unearned Ticket Revenue..... | 10,000 | |
| Ticket Revenue..... | | 10,000 |

$$\$10,000 = (\$50 \times 200)$$

| | | |
|---------------------------|-------|-------|
| Advertising Expense | 2,500 | |
| Prepaid Advertising | | 2,500 |

| | | |
|------------------------|-------|-------|
| Salaries Expense | 3,500 | |
| Salaries Payable | | 3,500 |

ANALYSIS

| | <u>Income before Adjustments</u> | <u>Adjustments</u> | <u>Income after Adjustments</u> |
|----------------------|--------------------------------------|--------------------|-------------------------------------|
| Ticket revenue | £360,000 | £10,000 | £370,000 |
| Depreciation expense | | (9,500) | (9,500) |
| Advertising expense | (18,680) | (2,500) | (21,180) |
| Salaries expense | (67,600) | (3,500) | (71,100) |
| Interest expense | (1,400) | (8,250) | (9,650) |
| Net income | <u>£272,320</u> | | <u>£258,570</u> |

Without recording the adjusting entries, Amato's income is overstated. In addition, without the adjustments, Amato's current liabilities and current assets are misstated, which could affect evaluation of Amato's liquidity.

ACCOUNTING ANALYSIS PRICIPLES (Continued)

PRINCIPLES

The tradeoffs are between the timeliness of the reports, which contributes to relevance, and verifiability, the lack of which detracts from faithful representation. That is, by preparing reports more frequently, the company provides more timely information, which can make a difference to a statement reader who needs to make a decision. However, preparing statements more frequently requires more subjective estimates, which reduces faithful representation.

(a) Assets

53 The future economic benefit embodied in an asset is the potential to contribute, directly or indirectly, to the flow of cash and cash equivalents to the entity. The potential may be a productive one that is part of the operating activities of the entity. It may also take the form of convertibility into cash or cash equivalents or a capability to reduce cash outflows, such as when an alternative manufacturing process lowers the costs of production.

54 An entity usually employs its assets to produce goods or services capable of satisfying the wants or needs of customers; because these goods or services can satisfy these wants or needs, customers are prepared to pay for them and hence contribute to the cash flow of the entity. Cash itself renders a service to the entity because of its command over other resources.

55 The future economic benefits embodied in an asset may flow to the entity in a number of ways. For example, an asset may be:

- a. used singly or in combination with other assets in the production of goods or services to be sold by the entity;**
- b. exchanged for other assets;**
- c. used to settle a liability; or**
- d. distributed to the owners of the entity.**

(b) Liabilities

60 An essential characteristic of a liability is that the entity has a present obligation. An obligation is a duty or responsibility to act or perform in a certain way. Obligations may be legally enforceable as a consequence of a binding contract or statutory requirement. This is normally the case, for example, with amounts payable for goods and services received. Obligations also arise, however, from normal business practice, custom and a desire to maintain good business relations or act in an equitable manner. If, for example, an entity decides as a matter of policy to rectify faults in its products even when these become apparent after the warranty period has expired, the amounts that are expected to be expended in respect of goods already sold are liabilities.

PROFESSIONAL RESEARCH (Continued)

61 A distinction needs to be drawn between a present obligation and a future commitment. A decision by the management of an entity to acquire assets in the future does not, of itself, give rise to a present obligation. An obligation normally arises only when the asset is delivered or the entity enters into an irrevocable agreement to acquire the asset. In the latter case, the irrevocable nature of the agreement means that the economic consequences of failing to honour the obligation, for example, because of the existence of a substantial penalty, leave the entity with little, if any, discretion to avoid the outflow of resources to another party.

62 The settlement of a present obligation usually involves the entity giving up resources embodying economic benefits in order to satisfy the claim of the other party. Settlement of a present obligation may occur in a number of ways, for example, by:

- a. payment of cash;**
- b. transfer of other assets;**
- c. provision of services;**
- d. replacement of that obligation with another obligation; or**
- e. conversion of the obligation to equity.**

(c) Accrual basis

22 In order to meet their objectives, financial statements are prepared on the accrual basis of accounting. Under this basis, the effects of transactions and other events are recognised when they occur (and not as cash or its equivalent is received or paid) and they are recorded in the accounting records and reported in the financial statements of the periods to which they relate. Financial statements prepared on the accrual basis inform users not only of past transactions involving the payment and receipt of cash but also of obligations to pay cash in the future and of resources that represent cash to be received in the future. Hence, they provide the type of information about past transactions and other events that is most useful to users in making economic decisions.

PROFESSIONAL SIMULATION

Journal Entries

| | | | |
|---------|-----------------------------------|-------|-------|
| Dec. 31 | Accounts Receivable..... | 1,500 | |
| | Advertising Revenue..... | | 1,500 |
| 31 | Unearned Advertising Revenue..... | 1,400 | |
| | Advertising Revenue..... | | 1,400 |
| 31 | Art Supplies Expense..... | 3,400 | |
| | Art Supplies | | 3,400 |
| 31 | Depreciation Expense | 7,000 | |
| | Accumulated Depreciation..... | | 7,000 |
| 31 | Salaries Expense | 1,300 | |
| | Salaries Payable | | 1,300 |

Financial Statements

Nalezny Advertising Agency
Income Statement
For the Year Ended December 31, 2010

| | | |
|-----------------------------|----------|------------------------|
| Revenues | | |
| Advertising revenue | | \$61,500 |
| Expenses | | |
| Salaries expense | \$11,300 | |
| Depreciation expense | 7,000 | |
| Rent expense | 4,000 | |
| Art supplies expense | 3,400 | |
| Total expenses | | <u>25,700</u> |
| Net income | | <u>\$35,800</u> |

PROFESSIONAL SIMULATION (Continued)

**Nalezny Advertising Agency
Statement of Financial Position
December 31, 2010**

| <u>Assets</u> | | |
|------------------------------------------------------------|---------------|------------------------|
| Printing equipment | \$60,000 | |
| Less: Accumulated depreciation— printing equipment..... | <u>35,000</u> | <u>\$25,000</u> |
| Art supplies..... | | 5,000 |
| Accounts receivable | | 21,500 |
| Cash..... | | <u>11,000</u> |
| Total Assets..... | | <u>\$62,500</u> |

| <u>Equity and Liabilities</u> | | |
|-------------------------------------------|--------------|------------------------|
| Equity | | |
| Share capital—ordinary..... | \$10,000 | |
| Retained earnings | | \$50,600 |
| | 40,600* | |
| Liabilities | | |
| Accounts payable..... | 5,000 | |
| Unearned advertising revenue..... | 5,600 | |
| Salaries payable..... | <u>1,300</u> | |
| Total liabilities | | <u>11,900</u> |
| Total equity and liabilities | | <u>\$62,500</u> |

| | |
|----------------------------------|-----------------|
| *Retained earnings, Jan. 1, 2010 | \$ 4,800 |
| Add: Net income | <u>35,800</u> |
| Retained earnings, Dec. 31, 2010 | <u>\$40,600</u> |

Explanation

Following preparation of financial statements (see Illustration 3-6), Nalezny would prepare closing entries to reduce the temporary accounts to zero. Some companies prepare a post-closing trial balance and reversing entries.

CHAPTER 4

Income Statement and Related Information

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|-----------------------------------------------------------------------------------|--------------------------------------------|-----------------|----------------------------|------------------|-----------------------|
| 1. Income measurement concepts. | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 32, 35 | | | | 3, 4, 5, 7 |
| 2. Computation of net income from balance sheets and selected accounts. | | 1, 3, 4, 5 | 1, 2, 3, 4, 8 | | |
| 3. Condensed income statements; earnings per share. | 12, 13, 14, 23, 25 | 1, 2, 4, 10 | 4, 5, 7, 8, 10, 11, 13, 17 | 3, 4, 6 | 1, 2, 6 |
| 4. Detailed income statements. | 12, 14, 15, 16, 19, 20 | 3, 6 | 1, 5, 6, 7, 9 | 1, 2, 5 | 7 |
| 5. Accounting changes; discontinued operations; prior period adjustments; errors. | 16, 17, 18, 19, 24, 25, 27, 28, 29, 30, 36 | 7, 8, 9 | 6, 8, 10, 11, 13, 14 | 4, 6, 7, 8 | 3, 5, 6, 7 |
| 6. Retained earnings statement. | 31 | 11, 12 | 9, 12, 16, 17 | 1, 2, 3, 5, 6, 7 | |
| 7. Intraperiod tax allocation. | 21, 22, 26, 27 | | 9, 11, 13, 14, 16 | 2, 4, 7, 8 | |
| 8. Comprehensive income. | 33, 34, 37 | 13 | 15, 16, 17, 18 | | 8 |
| 9. Convergence. | 35, 36, 37 | | 1 | | |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|----------------------------------------------------------------|---------------------|--------------------------------------|------------------------|
| 1. Understand the uses and limitations of an income statement. | | | |
| 2. Understand the content and format of the income statement. | 1, 2 | 1, 2, 3, 4, 8 | 3 |
| 3. Prepare an income statement. | 1, 2, 3, 4, 5, 6, 7 | 5, 6, 7, 8, 9, 11, 17 | 2, 3, 4, 5 |
| 4. Explain how to report items in the income statement. | 3, 4, 5, 6, 7, 8, 9 | 4, 5, 6, 7, 8, 9, 11, 13, 14, 15, 17 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 5. Identify where to report earnings per share information. | 10 | 8, 9, 10, 11, 13, 17 | 2, 4, 5, 6, 8 |
| 6. Explain intraperiod tax allocation. | | 8, 9, 11, 13, 14, 17 | 2, 3, 4, 5, 6, 7, 8 |
| 7. Understand the reporting of accounting changes and errors. | 8, 9, 12 | 14 | 4, 7 |
| 8. Prepare a retained earnings statement. | 11, 12 | 1, 9, 12, 16, 17 | 1, 2, 3, 5, 6, 7 |
| 9. Explain how to report other comprehensive income. | 13 | 1, 7, 15, 16, 17, 18 | 1 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|-------|----------------------------------------------------------|---------------------|----------------|
| E4-1 | Compute income measures. | Simple | 10–15 |
| E4-2 | Computation of net income. | Simple | 18–20 |
| E4-3 | Income statement items. | Simple | 25–35 |
| E4-4 | Income statement presentation. | Moderate | 20–25 |
| E4-5 | Income statement. | Simple | 20–25 |
| E4-6 | Income statement, items. | Moderate | 30–35 |
| E4-7 | Income statement. | Moderate | 30–40 |
| E4-8 | Income statement, EPS. | Simple | 15–20 |
| E4-9 | Income statement with retained earnings. | Simple | 30–35 |
| E4-10 | Earnings per share. | Simple | 20–25 |
| E4-11 | Condensed income statement—periodic inventory method. | Moderate | 20–25 |
| E4-12 | Retained earnings statement. | Simple | 20–25 |
| E4-13 | Earnings per share. | Moderate | 15–20 |
| E4-14 | Change in accounting principle. | Moderate | 15–20 |
| E4-15 | Comprehensive income. | Simple | 15–20 |
| E4-16 | Comprehensive income. | Moderate | 15–20 |
| E4-17 | Various reporting formats. | Moderate | 30–35 |
| E4-18 | Changes in equity. | Simple | 10–15 |
| P4-1 | Income components. | Simple | 5–10 |
| P4-2 | Income statement, retained earnings. | Moderate | 30–35 |
| P4-3 | Income statement, retained earnings, periodic inventory. | Simple | 25–30 |
| P4-4 | Income statement items. | Moderate | 30–40 |
| P4-5 | Income statement retained earnings. | Moderate | 30–40 |
| P4-6 | Statement presentation. | Moderate | 20–25 |
| P4-7 | Retained earnings statement, prior period adjustment. | Moderate | 25–35 |
| P4-8 | Income statement. | Moderate | 25–35 |
| CA4-1 | Identification of income statement deficiencies. | Simple | 20–25 |
| CA4-2 | Income reporting deficiencies. | Simple | 10–15 |
| CA4-3 | Earnings management. | Moderate | 20–25 |
| CA4-4 | Earnings management | Simple | 15–20 |
| CA4-5 | Income reporting items. | Moderate | 30–35 |
| CA4-6 | Identification of income statement weaknesses. | Moderate | 30–40 |
| CA4-7 | Classification of income statement items. | Moderate | 20–25 |
| CA4-8 | Comprehensive income. | Simple | 10–15 |

ANSWERS TO QUESTIONS

1. The income statement is important because it provides investors and creditors with information that helps them predict the amount, timing, and uncertainty of future cash flows. It helps investors and creditors predict future cash flows in a number of different ways. First, investors and creditors can use the information on the income statement to evaluate the past performance of the enterprise. Second, the income statement helps users of the financial statements to determine the risk (level of uncertainty) of income—revenues, expenses, gains, and losses—and highlights the relationship among these various components.

It should be emphasized that the income statement is used by parties other than investors and creditors. For example, customers can use the income statement to determine a company's ability to provide needed goods or services, unions examine earnings closely as a basis for salary discussions, and the government uses the income statements of companies as a basis for formulating tax and economic policy.

2. Information on past transactions can be used to identify important trends that, if continued, provide information about future performance. If a reasonable correlation exists between past and future performance, predictions about future earnings and cash flows can be made. For example, a loan analyst can develop a prediction of future performance by estimating the rate of growth of past income over the past several periods and project this into the next period. Additional information about current economic and industry factors can be used to adjust the trend rate based on historical information.
3. Some situations in which changes in value are not recorded in income are:
 - (a) Unrealized gains or losses on available-for-sale investments,
 - (b) Changes in the market values of long-term liabilities, such as bonds payable,
 - (c) Changes (increases) in value of property, plant and equipment, such as land, natural resources, or equipment,
 - (d) Changes (increases) in the values of intangible assets such as customer goodwill, brand value, or intellectual capital.

Note that some of these omissions arise because the items (e.g., brand value) are not recognized in financial statements, while others (value of land) are recorded in financial statements but measurement is at historical cost.

4. Some situations in which application of different accounting methods or estimates lead to comparison problems include:
 - (a) Inventory methods—weighted average vs. FIFO,
 - (b) Depreciation Methods—straight-line vs. accelerated,
 - (c) Accounting for long-term contracts—percentage-of-completion vs. completed-contract,
 - (d) Estimates of useful lives or salvage values for depreciable assets,
 - (e) Estimates of bad debts,
 - (f) Estimates of warranty costs.
5. The transaction approach focuses on the activities that have occurred during a given period and instead of presenting only a net change, a description of the components that comprise the change is included. In the capital maintenance approach, only the net change (income) is reflected whereas the transaction approach not only provides the net change (income) but the components of income (revenues and expenses). The final net income figure should be the same under either approach given the same valuation base.

Questions Chapter 4 (Continued)

6. Earnings management is often defined as the planned timing of revenues, expenses, gains and losses to smooth out bumps in earnings. In most cases, earnings management is used to increase income in the current year at the expense of income in future years. For example, companies prematurely recognize sales before they are complete in order to boost earnings. Earnings management can also be used to decrease current earnings in order to increase income in the future. The classic case is the use of “cookie jar” reserves, which are established by using unrealistic assumptions to estimate liabilities for such items as sales returns, loan losses, and warranty costs.
7. Earnings management has a negative effect on the quality of earnings if it distorts the information in a way that is less useful for predicting future cash flows. Within the Conceptual Framework, useful information is both relevant and a faithful representation. However, earnings management reduces the reliability of income, because the income measure is biased (up or down) and/or the reported income is not representationally faithful to that which it is supposed to report (e.g., volatile earnings are made to look more smooth).
8. Caution should be exercised because many assumptions and estimates are made in accounting and the net income figure is a reflection of these assumptions. If for any reason the assumptions are not well-founded, distortions will appear in the income reported. The objectives of the application of IFRS to the income statement are to measure and report the performance for a specified period without recognizing any artificial exclusions or modifications.
9. The term “quality of earnings” refers to the credibility of the earnings number reported. Companies that use aggressive accounting policies report higher income numbers in the short-run. In such cases, we say that the quality of earnings is low. Similarly, if higher expenses are recorded in the current period, in order to report higher income in the future, then the quality of earnings is also considered low.
10. Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from shareholders.

Expenses are decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to shareholders.
11. The definition of income includes both revenues and gains. Gains represent items that meet the definition of income and may or may not arise in the ordinary activities of a company.

The definition of expenses includes both expenses and losses. Losses represent items that meet the definition of expenses and may or may not arise in the ordinary activities of a company.
12. (1) Gross profit is the difference between revenue and cost of goods sold and is reported in the cost of goods sold section of the income statement.
(2) Income from operations is reported on the income statement between the other income and expense section and financing costs.
13. Ahold would report the “settlement of securities class action” loss in the other income and expense section of its income statement.

Questions Chapter 4 (Continued)

14. (1) Interest expense is reported on the income statement between income from operations and income before income taxes.
(2) Income tax expense is reported between income before income tax and income from continuing operations on the income statement.

15. The “nature of expense” classification uses a natural expense approach (such as direct labor incurred, advertising expense, depreciation expense) without having to make arbitrary allocations.

The “function of expense” classification identifies the major cost drivers of a company (such as cost of goods sold and administrative expenses).

16. (a) A loss on discontinued operations is reported net of tax in the income statement between income from continuing operations and net income.
(b) Non-controlling interest allocation is reported in the income statement after the net income.
(c) Earnings per share are shown in the income statement after the non-controlling interest allocation.
(d) A gain on sale of equipment is shown under other income and expense in the income statement.
17. (a) The write-down of plant assets due to impairment should be shown as an other income and expense item.
(b) The delivery expense on goods sold should be shown as a selling expense in the income statement. It is an ordinary expense to the company and represents a cost of selling goods.
(c) If the amount is immaterial, it may be combined with the depreciation expense for the year and included as a part of the depreciation expense appearing in the income statement. If the amount is material, it should be shown in the retained earnings statement as an adjustment to the beginning balance of retained earnings.
(d) This should be shown in the income statement. One treatment would be to show it in the statement as a deduction from the rent expense, as it reduces an expense and therefore is directly related to operations. Another treatment is to show it in the other income and expense section of the income statement.
(e) Assuming that a provision for the loss had not been made at the time the patent infringement suit was instituted, the loss should be recognized in the current period in computing net income. It is reported as other income and expense.
(f) This should be reported in the income statement because it relates to usual business operations of the firm.
18. (a) The remaining book value of the equipment should be depreciated over the remainder of the five-year period. The additional depreciation (£425,000) is not a correction of an error and is not shown as an adjustment to retained earnings. The change is considered a change in estimate.
(b) The loss should be shown as an other income and expense item.
(c) The write-off should be shown as an other income and expense item.
(d) Interest expense should be shown as a deduction from Income from operations.
(e) A correction of an error should be considered a prior period adjustment and the beginning balance of Retained Earnings should be restated, if material.
(f) The cumulative effect of the change is reported as an adjustment to beginning retained earnings. Prior years’ statements are recast on a basis consistent with the new standard.

Questions Chapter 4 (Continued)

19. (a) Other income and expense section.
(b) Expense section or other income and expense.
(c) Expense section, as a selling expense, but sometimes reflected as an administrative expense.
(d) Separate section after income from continuing operations, entitled discontinued operations.
(e) Other income and expense section.
(f) Financing cost section.
(g) Operating expense section.
(h) Other income and expense section.
20. Both formats are acceptable. The amount of detail reported in the income statement is left to the judgment of the company, whose goal in making this decision should be to present financial statements which are most useful to decision makers. We want to present a simple, understandable statement so that a reader can easily discover the facts of importance; therefore, a single amount for selling expenses might be preferable. However, we also want to fully disclose the results of all activities; thus, a separate listing of expenses may be preferred. Note that if the condensed version is used, it should be accompanied by a supporting schedule of the eight components in the notes to the financial statements.
21. Intraperiod tax allocation should not affect the reporting of an unusual gain. The IASB reserves "net-of-tax" treatment for discontinued operations and prior period adjustments.
22. Intraperiod tax allocation has no effect on reported net income, although it does affect the amounts reported for various components of income. The effects on these components offset each other so net income remains the same. Intraperiod tax allocation merely takes the total tax expense and allocates it to the various items which affect the tax amount.
23. If Neumann has preference shares outstanding, the numerator in its computation may be incorrect. A better description of "earnings per share" is "earnings per ordinary share." The numerator should include only the earnings available to ordinary shareholders. Therefore, the numerator should be: net income less preference dividends.
- The denominator is also incorrect if Neumann had any common stock transactions during the year. Since the numerator represents the results for the entire year, the denominator should reflect the weighted-average number of common shares outstanding during the year, not the shares outstanding at one point in time (year-end).
24. A loss on the disposal of a component of a business is reported separately from continuing operations. It is shown net of tax after the income from continuing operations line in the income statement.
25. The earnings per share trend is not negative. A loss on discontinued operations is a one-time occurrence which is not expected to be reported in the future. Therefore, earnings per share on income from continuing operations is more useful because it represents the results of usual business activity. Considering this EPS amount, EPS has increased from \$7.12 to \$8.00.

Questions Chapter 4 (Continued)

- 26.** Tax allocation within a period is the practice of allocating the income tax for a period to such items as income before income tax, discontinued operations, and prior period adjustments.

The justification for tax allocation within a period is to produce financial statements which disclose an appropriate relationship, for example, between income tax expense and (a) income before income tax, (b) discontinued operations, and (c) prior period adjustments (or of the opening balance of retained earnings).

- 27.** Tax allocation within a period (intrapperiod) becomes necessary when a firm encounters such items as discontinued operations or corrections of errors. Such allocation is necessary to bring about an appropriate relationship between income tax expense and income from continuing operations, discontinued operations etc.

Tax allocation within a period is handled by first computing the tax expense attributable to income before income tax, assuming no discontinued operations. This is simply computed by ascertaining the income tax expense related to revenue and expense transactions entering into the determination of such income. Next, the remaining income tax expense attributable to other items is determined by the tax consequences of transactions involving these items. The applicable tax effect of these items (prior period adjustments) should be disclosed separately because of their materiality.

- 28.** The assets, cash flows, results of operations, and activities of the plants closed would not appear to be clearly distinguishable, operationally or for financial reporting purposes, from the assets, results of operations, or activities of the Linus Paper Company. Therefore, disposal of these assets is not considered to be a disposal of a component of a business that would receive special reporting.

- 29.** Companies report corrections of errors as an adjustment to the beginning balance of retained earnings. If a company prepares comparative financial statements, it should restate the prior statements for the effects of the error.

- 30.** A change in accounting principle has no effect on the current year's net income because it is recognized as a retrospective adjustment to the financial statements. It is reported as an adjustment to beginning retained earnings of the earliest year presented.

- 31.** The major items reported in the retained earnings statement are: (1) adjustments of the beginning balance for corrections of errors or changes in accounting principle, (2) the net income or loss for the period, (3) dividends for the year, and (4) restrictions (appropriations) of retained earnings. It should be noted that the retained earnings statement is sometimes composed of two parts, unappropriated and appropriated.

- 32.** IFRS are ordinarily concerned only with a "fair presentation" of business income. In contrast, taxable income is a statutory concept which defines the base for raising tax revenues by the government, and any method of accounting which meets the statutory definition will "clearly reflect" taxable income as defined by relevant tax laws. It should be noted that many tax systems prohibits use of the cash receipts and disbursements method as a method which will clearly reflect income in accounting for purchases and sales if inventories are involved.

Questions Chapter 4 (Continued)

The cash receipts and disbursements method will not usually fairly present income because:

- (1) The completed transaction, not receipt or disbursement of cash, increases or diminishes income. Thus, a sale on account produces revenue and increases income, and the incurrence of expense reduces income without regard to the time of payment of cash.
- (2) The expense recognition principle generally results in costs being matched against related revenues produced. In most situations the cash receipts and disbursements method will violate this principle.
- (3) Consistency requires that accountable events receive the same accounting treatment from accounting period to accounting period. The cash receipts and disbursements method permits manipulation of the timing of revenues and expenses and may result in treatments which are not consistent, detracting from the usefulness of comparative statements.

33. Other comprehensive income may be displayed (reported) in one of two ways: (1) a second income statement or (2) a combined statement of comprehensive income.

34.

GRIBBLE COMPANY
Comprehensive Income Statement
For the Year Ended 2010
(in thousands of Euros)

| | |
|---------------------------------------------------------------|-------------|
| Net income..... | €150 |
| Unrealized gain related to revaluation of buildings..... | 10 |
| Unrealized loss related to available-for-sale securities..... | (35) |
| Items not recognized on the income statement..... | (25) |
| Total comprehensive income | <u>€125</u> |

35. There is no U.S. GAAP in this area, except the SEC does require public companies to report their expenses by function.
36. Bradshaw should report this item as an extraordinary item similar to discontinued operations. While under U.S. GAAP, companies are required to report an item as extraordinary if it is unusual in nature and infrequent in occurrence. Extraordinary item reporting is prohibited under IFRS.
37. U.S. GAAP provides for three possible reporting formats for comprehensive income items: (1) a single income statement (2) a combined statement of comprehensive income, or (3) as a part of the statement of shareholders' equity.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 4-1

STARR CO. Income Statement For the Year 2010

| | | |
|--------------------------------|---------------|-----------------|
| Sales | | £540,000 |
| Cost of goods sold..... | | <u>330,000</u> |
| Gross profit | | 210,000 |
| Selling expenses..... | £120,000 | |
| Administrative expenses | <u>10,000</u> | <u>130,000</u> |
| Income before income tax | | 80,000 |
| Income tax | | <u>25,000</u> |
| Net income..... | | <u>£ 55,000</u> |
| | | |
| Earnings per share..... | | <u>£0.55*</u> |

*£55,000 ÷ 100,000 shares.

Note: The increase in value of employees is not reported.

BRIEF EXERCISE 4-2

BRISKY CORPORATION
Income Statement
For the Year Ended December 31, 2010

| | | |
|-----------------------------------|-----------------------|--------------------------|
| Net sales..... | | \$2,400,000 |
| Cost of goods sold | | <u>1,450,000</u> |
| Gross profit..... | | 950,000 |
| Selling expenses | \$280,000 | |
| Administrative expenses | <u>212,000</u> | <u>492,000</u> |
| | | 458,000 |
| Other income and expense | | |
| Interest revenue..... | | <u>31,000</u> |
| Income from operations..... | | 489,000 |
| Interest expense | | <u>45,000</u> |
| Income before income tax..... | | 444,000 |
| Income tax (\$444,000 X 30%)..... | | <u>133,200</u> |
| Net income | | <u>\$ 310,800</u> |
| Earnings per share | | <u>\$4.44*</u> |

*\$310,800 ÷ 70,000 shares.

BRIEF EXERCISE 4-3

- (a) Other income and expense = €800,000 – €500,000 – €220,000 = €80,000
- (b) Financing costs = €220,000 – €200,000 = €20,000
- (c) Income tax = €200,000 – €100,000 = €100,000
- (d) Discontinued operations = €100,000 – €90,000 = (€10,000)
- (e) Other comprehensive income = €120,000 – €90,000 = €30,000

BRIEF EXERCISE 4-4

1. $\text{Income from operations} = \text{HK\$}100,000 - \text{HK\$}55,000 - \text{HK\$}10,000 + \text{HK\$}30,000 = \text{HK\$}65,000$
2. $\text{Income before income tax} = \text{HK\$}65,000 - \text{HK\$}5,000 = \text{HK\$}60,000$
3. $\text{Net income} = \text{HK\$}60,000 - (\text{HK\$}60,000 \times 20\%) = \text{HK\$}48,000$

BRIEF EXERCISE 4-5

$\text{Income before income tax} = \$430,000 - \$20,000 = \$410,000$
 $\text{Net income} = \$410,000 - (\$410,000 \times 30\%) = \$287,000$

BRIEF EXERCISE 4-6

1. Income from operations
2. Income before income tax
3. Income from operations
4. Gross profit
5. Income from operations

BRIEF EXERCISE 4-7

| | | |
|-------------------------------------------|----------------|---------------------|
| Income from continuing operations..... | | \$10,600,000 |
| Discontinued operations | | |
| Loss from operation of discontinued | | |
| restaurant division (net of tax) | \$315,000 | |
| Loss from disposal of restaurant division | | |
| (net of tax)..... | <u>189,000</u> | <u>(504,000)</u> |
| Net income | | <u>\$10,096,000</u> |
| Earnings per share..... | | |
| Income from continuing operations..... | | \$1.06 |
| Discontinued operations, net of tax | | <u>(0.05)*</u> |
| Net income | | <u>\$1.01</u> |

*Rounded

BRIEF EXERCISE 4-8

| | <u>2010</u> | <u>2009</u> | <u>2008</u> |
|--------------------------|------------------|------------------|------------------|
| Income before income tax | \$180,000 | \$145,000 | \$170,000 |
| Income tax (30%) | <u>54,000</u> | <u>43,500</u> | <u>51,000</u> |
| Net Income | <u>\$126,000</u> | <u>\$101,500</u> | <u>\$119,000</u> |

BRIEF EXERCISE 4-9

Vandross would not report any cumulative effect because a change in estimate is not handled retrospectively. Vandross would report bad debt expense of €120,000 in 2010.

BRIEF EXERCISE 4-10

$$\frac{\$1,000,000 - \$250,000}{190,000} = \underline{\$3.95} \text{ per share}$$

BRIEF EXERCISE 4-11

PORTMAN CORPORATION
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|--------------------------------------|--------------------|
| Retained earnings, January 1 | \$ 675,000 |
| Add: Net income | <u>1,400,000</u> |
| | 2,075,000 |
| Less: Cash dividends | <u>75,000</u> |
| Retained earnings, December 31 | <u>\$2,000,000</u> |

BRIEF EXERCISE 4-12

PORTMAN CORPORATION
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|--------------------------------------------------------------------------------|---------------------------|
| Retained earnings, January 1, as reported..... | \$ 675,000 |
| Correction for overstatement of expenses in prior period (net of tax) | <u>80,000</u> |
| Retained earnings, January 1, as adjusted..... | 755,000 |
| Add: Net income..... | <u>1,400,000</u> |
| | 2,155,000 |
| Less: Cash dividends | <u>75,000</u> |
| Retained earnings, December 31 | <u><u>\$2,080,000</u></u> |

BRIEF EXERCISE 4-13

| | |
|----------------------------------------------------------------------|--------------------------|
| (a) Net income (Dividend revenue)..... | <u><u>¥3,000,000</u></u> |
| (b) Net income | ¥3,000,000 |
| Unrealized holding gain..... | <u>4,000,000</u> |
| Comprehensive income..... | <u><u>¥7,000,000</u></u> |
| (c) Unrealized holding gain (Other comprehensive income) | <u><u>¥4,000,000</u></u> |
| (d) Accumulated other comprehensive income, January 1, 2010 | ¥ 0 |
| Unrealized holding gain..... | <u>4,000,000</u> |
| Accumulated other comprehensive income, December 31, 2010..... | <u><u>¥4,000,000</u></u> |

SOLUTIONS TO EXERCISES

EXERCISE 4-1 (10–15 minutes)

| | |
|--------------------------------------------------------------|--------------------|
| Sales revenue | €310,000 |
| Cost of goods sold | <u>140,000</u> |
| Gross profit | 170,000 |
| Selling and administrative expenses | <u>50,000</u> |
| | 120,000 |
| Other income and expense | |
| Gain on sale of plant assets | <u>30,000</u> |
| Income from operations | 150,000(a) |
| Interest expense | <u>6,000</u> |
| Income from continuing operations | 144,000 |
| Loss on discontinued operations | <u>(12,000)</u> |
| Net income | 132,000(b) |
| Allocation to non-controlling interest | <u>(40,000)</u> |
| Net income attributable to controlling shareholders | <u>€ 92,000(c)</u> |
| Net income | €132,000 |
| Unrealized gain on available-for-sale financial assets | <u>10,000</u> |
| Comprehensive income | <u>€142,000(d)</u> |
| Net income | €132,000 |
| Dividends declared and paid | <u>5,000</u> |
| Retained earnings December 31, 2010 | <u>€127,000(e)</u> |

Au: Is it correct? Pls confirm

EXERCISE 4-2 (15–20 minutes)

Computation of net income

| | |
|------------------------|--------------------------------------------------------------|
| Change in assets: | $£69,000 + £45,000 + £127,000 - £47,000 = £194,000$ Increase |
| Change in liabilities: | $£ 82,000 - £51,000 = \underline{31,000}$ Increase |
| Change in equity: | <u>£163,000</u> Increase |

EXERCISE 4-2 (Continued)

Change in equity accounted
for as follows:

| | | |
|--------------------------------------------------------------------|-----------------|-----------------|
| Net increase | | £163,000 |
| Increase in shares | £138,000 | |
| Decrease in retained earnings due to dividend declaration | <u>(24,000)</u> | |
| Net increase accounted for | | <u>114,000</u> |
| Increase in retained earnings due to net income | | <u>£ 49,000</u> |

EXERCISE 4-3 (25–35 minutes)

(a) Total net revenue:

| | | |
|-----------------------------|---------------|------------------|
| Sales | | \$400,000 |
| Less: Sales discounts | \$ 7,800 | |
| Sales returns | <u>12,400</u> | <u>20,200</u> |
| Net sales | | 379,800 |
| Dividend revenue | | 71,000 |
| Rental revenue | | <u>6,500</u> |
| Total net revenue | | <u>\$457,300</u> |

(b) Net income:

| | | |
|----------------------------------|---------------|------------------|
| Total net revenue (from a) | | \$457,300 |
| Expenses: | | |
| Cost of goods sold | \$184,400 | |
| Selling expenses | 99,400 | |
| Administrative expenses | 82,500 | |
| Interest expense | <u>12,700</u> | |
| Total expenses | | <u>379,000</u> |
| Income before income tax | | 78,300 |
| Income tax | | <u>26,600</u> |
| Net income | | <u>\$ 51,700</u> |

EXERCISE 4-3 (Continued)

(c) Dividends declared:

| | |
|-----------------------------------|------------------|
| Ending retained earnings..... | \$134,000 |
| Beginning retained earnings..... | <u>(114,400)</u> |
| Net increase..... | 19,600 |
| Less: Net income (from (b)) | <u>51,700</u> |
| Dividends declared | <u>\$ 32,100</u> |

ALTERNATE SOLUTION (for (c))

| | |
|-----------------------------------|------------------|
| Beginning retained earnings | \$114,400 |
| Add: Net income | <u>51,700</u> |
| | 166,100 |
| Less: Dividends declared | <u>?</u> |
| Ending retained earnings | <u>\$134,000</u> |

Dividends declared must be \$32,100
(\$166,100 – \$134,000)

EXERCISE 4-4 (20–25 minutes)

DUNBAR INC. Income Statement For Year Ended December 31, 2010

| | | |
|---------------------------------------------------------|-----------------------------|------------------|
| Net sales (\$1,125,000 ^(b) – \$17,000) | | \$1,108,000 |
| Cost of goods sold | | <u>500,000</u> |
| Gross profit | | 608,000 |
| Selling expenses | \$360,000 ^(c) | |
| Administrative expenses | <u>90,000^(a)</u> | <u>450,000</u> |
| Income from operations..... | | 158,000 |
| Interest expense | | <u>20,000</u> |
| Income before income tax..... | | 138,000 |
| Income tax | | <u>41,400</u> |
| Net income | | <u>\$ 96,600</u> |
| Earnings per share (d)..... | | <u>\$3.22*</u> |

*Rounded

EXERCISE 4-4 (Continued)

Determination of amounts

- (a) **Administrative expenses** = **18% of cost of good sold**
= **18% of \$500,000**
= **\$90,000**
- (b) **Gross sales X 8%** = **administrative expenses**
= **\$90,000 ÷ 8%**
= **\$1,125,000**
- (c) **Selling expenses** = **four times administrative expenses.**
(since selling expenses are 4/5
of selling and administrative
expenses, selling expenses are
4 times administrative expenses.)
= **4 X \$90,000**
= **\$360,000**
- (d) **Earnings per share \$3.22 (\$96,600 ÷ 30,000)**

EXERCISE 4-5 (20–25 minutes)

WEBSTER COMPANY
Income Statement
For the Year Ended December 31, 2010
(In thousands, except earnings per share)

| | | | | |
|----------------------------------------------------------------|---------------------|---------------------|--|--------------------------|
| Sales | | | | \$96,500 |
| Cost of goods sold | | | | <u>63,570</u> |
| Gross profit | | | | 32,930 |
| Selling expenses | | | | |
| Sales commissions..... | \$7,980 | | | |
| Depr. of sales equipment..... | 6,480 | | | |
| Transportation-out..... | <u>2,690</u> | \$17,150 | | |
| Administrative expenses | | | | |
| Officers' salaries..... | 4,900 | | | |
| Depr. of office furn. and equip..... | <u>3,960</u> | <u>8,860</u> | | <u>26,010</u> |
| | | | | 6,920 |
| Other income and expense | | | | |
| Rental revenue | | | | <u>17,230</u> |
| Income from operations..... | | | | 24,150 |
| Interest expense | | | | <u>1,860</u> |
| Income before income tax..... | | | | 22,290 |
| Income tax | | | | <u>7,580</u> |
| Net income | | | | <u>\$14,710</u> |
| Earnings per capital share (\$14,710 ÷ 40,550)..... | | | | <u>\$.36</u> |

EXERCISE 4-6 (30–35 minutes)

PARNEVIK CORP.
Income Statement
For the Year Ended December 31, 2010

Sales Revenue

| | | |
|--------------------------------------------|----------------------|-------------------------|
| Sales | | \$1,280,000 |
| Less: Sales returns and allowances | \$150,000 | |
| Sales discounts | <u>45,000</u> | <u>195,000</u> |
| Net sales revenue | | 1,085,000 |
| Cost of goods sold | | <u>621,000</u> |
| Gross profit | | 464,000 |
| | | |
| Selling expenses | 194,000 | |
| Admin. and general expenses | <u>97,000</u> | <u>291,000</u> |
| | | 173,000 |
| | | |
| Other Income and Expense | | |
| Loss from impairment of plant assets | (120,000) | |
| Interest revenue | <u>86,000</u> | <u>34,000</u> |
| Income from operations | | 139,000 |
| Interest expense | | <u>60,000</u> |
| Income before income tax | | 79,000 |
| Income tax (\$79,000 X .34) | | <u>26,860</u> |
| Net income | | <u>\$ 52,140</u> |

| | |
|-----------------------------------------------|---------------------|
| Earnings per share (\$52,140 ÷ 100,000) | <u>\$52*</u> |
|-----------------------------------------------|---------------------|

***Rounded**

EXERCISE 4-7 (30–40 minutes)**(a)**

WEATHERSPOON SHOE CO.
Income Statement
For the Year Ended December 31, 2010

| | | |
|-------------------------------------------------|------------------------|--------------------------------|
| Net sales..... | | \$980,000 |
| Cost of goods sold | | <u>516,000</u> |
| Gross profit | | 464,000 |
| | | |
| Selling expenses | \$140,000 | |
| Administrative expenses | <u>181,000</u> | <u>321,000</u> |
| | | 143,000 |
| | | |
| Other income and expense | | |
| Rental revenue | 29,000 | |
| Loss on sale of plant assets | <u>(15,000)</u> | <u>14,000</u> |
| Income from operations..... | | 157,000 |
| Interest expense | | <u>18,000</u> |
| Income before income tax..... | | 139,000 |
| Income tax | | <u>30,600</u> |
| Net income | | <u><u>108,400</u></u> |
| | | |
| Other Comprehensive Income | | |
| Unrealized gain on securities, net of tax | | <u>31,000</u> |
| Comprehensive income | | <u><u>\$139,400</u></u> |
| Earnings per share (\$108,400 ÷ 20,000)..... | | <u><u>\$.92</u></u> |

EXERCISE 4-7 (Continued)**(b) WEATHERSPOON SHOE CO.****Income Statement****For the Year Ended December 31, 2010**

| | | |
|-----------------------------------------------|------------------------|-------------------------|
| Net sales | | \$980,000 |
| Cost of goods sold..... | | <u>516,000</u> |
| Gross profit | | 464,000 |
| Selling expenses..... | \$140,000 | |
| Administrative expenses | <u>181,000</u> | <u>321,000</u> |
| | | 143,000 |
| Other income and expense | | |
| Rental revenue..... | 29,000 | |
| Loss on sale of plant assets | <u>(15,000)</u> | <u>14,000</u> |
| Income from operations | | 157,000 |
| Interest expense..... | | <u>18,000</u> |
| Income before income tax | | 139,000 |
| Income tax..... | | <u>30,600</u> |
| Net income | | <u>\$108,400</u> |
| Earnings per share (\$108,400 ÷ 20,000) | | <u>\$.92</u> |

WEATHERSPOON SHOE CO.**Comprehensive Income Statement****For the Year Ended December 31, 2010**

| | |
|-------------------------------------------------|-------------------------|
| Net income | \$108,400 |
| Other comprehensive income | |
| Unrealized gain on securities, net of tax | <u>31,000</u> |
| Comprehensive income | <u>\$139,400</u> |

- (c) The combined statement has the advantage of not requiring the creation of a new financial statement. However, burying net income as a subtotal on the statement is considered a disadvantage.**

EXERCISE 4-8 (15–20 minutes)

| | | |
|-----|-----------------------------------|-----------------|
| (a) | Net sales | € 540,000 |
| | Less: Cost of goods sold..... | (260,000) |
| | Administrative expenses | (100,000) |
| | Selling expenses | (80,000) |
| | Discontinued operations-loss..... | <u>(40,000)</u> |
| | Income before income tax | 60,000 |
| | Income tax (€60,000 X .30) | <u>18,000</u> |
| | Net income | <u>€ 42,000</u> |

| | | |
|-----|------------------------------------------|-----------------|
| (b) | Income before income tax | €100,000* |
| | Income tax (€100,000 X .30) | <u>30,000</u> |
| | Income from continuing operations | 70,000 |
| | Discontinued operations, less applicable | |
| | income tax of €12,000 | <u>(28,000)</u> |
| | Net income | <u>€ 42,000</u> |

*€60,000 + €40,000

Earnings per share:

| | |
|--------------------------------------------------|---------------|
| Income from continuing operations | |
| (€70,000 ÷ 20,000) | € 3.50 |
| Loss on discontinued operations, net of tax..... | <u>(1.40)</u> |
| Net Income (€42,000 ÷ 20,000) | <u>€ 2.10</u> |

EXERCISE 4-9 (30–35 minutes)**(a)**

BROKAW CORP.
Income Statement
For the Year Ended December 31, 2010

| | | |
|-----------------------------------------------------|------------------------|---------------------------------|
| Sales Revenue | | |
| Net sales | | \$1,200,000 |
| Cost of goods sold..... | | <u>780,000</u> |
| Gross profit..... | | 420,000 |
| | | |
| Selling expenses | \$65,000 | |
| Administrative expenses | <u>48,000</u> | <u>113,000</u> |
| | | 307,000 |
| | | |
| Other income and expense | | |
| Dividend revenue | 20,000 | |
| Interest revenue..... | 7,000 | |
| Write-off of inventory due to obsolescence | <u>(80,000)</u> | <u>(53,000)</u> |
| Income from operations | | 254,000 |
| Interest expense..... | | <u>50,000</u> |
| Income before income tax | | 204,000 |
| Income tax | | <u>69,360</u> |
| Net income | | <u><u>\$ 134,640</u></u> |
| | | |
| Earnings per share | | |
| Net income (\$134,640 ÷ 60,000) | | <u><u>\$2.24*</u></u> |

***Rounded**

EXERCISE 4-9 (Continued)**(b)**

BROKAW CORP.
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|----------------------------------------------------------------------------------------------------------------|--------------------|
| Retained earnings, Jan. 1, as reported | \$ 980,000 |
| Correction for overstatement of net income in prior period (depreciation error) (net of \$13,600 tax) | <u>(26,400)</u> |
| Retained earnings, Jan. 1, as adjusted | 953,600 |
| Add: Net income | <u>134,640</u> |
| | 1,088,240 |
| Less: Dividends declared | <u>45,000</u> |
| Retained earnings, Dec. 31 | <u>\$1,043,240</u> |

EXERCISE 4-10 (20–25 minutes)**Computation of net income:**

| | |
|---------------------------------------------|----------------------|
| 2010 net income after tax | <u>R\$33,000,000</u> |
| 2010 net income before tax | |
| [R\$33,000,000 ÷ (1 – .20)] | 41,250,000 |
| Add back discontinued operations loss | <u>12,000,000</u> |
| Income before income tax | 53,250,000 |
| Income taxes (20% X R\$53,250,000) | <u>10,650,000</u> |
| Income from continuing operations | 42,600,000 |

Discontinued operations:

| | | |
|---------------------------------------------|------------------|----------------------|
| Loss from discontinued operations | R\$12,000,000 | |
| Less: Applicable income tax reduction | <u>2,400,000</u> | <u>9,600,000</u> |
| Net income | | <u>R\$33,000,000</u> |

EXERCISE 4-10 (Continued)

| | |
|-----------------------------------------------|------------------------|
| Net income..... | R\$33,000,000 |
| Less: Provision for preference dividends | |
| (6% of R\$4,500,000)..... | <u>270,000</u> |
| Income available to capital shareholders..... | 32,730,000 |
| Capital shares..... | <u>÷ 10,000,000</u> |
| Earnings per share..... | <u><u>R\$3.27*</u></u> |

Income statement presentation

Earnings per share:

| | |
|-------------------------------------------|---------------------------|
| Income from continuing operations..... | R\$4.23 ^a |
| Discontinued operations, net of tax | <u>(0.96)^b</u> |
| Net income | <u><u>R\$3.27</u></u> |

$$\frac{^a\text{R\$42,600,000} - \text{R\$270,000}}{10,000,000} = \text{R\$4.23}^*$$

$$\frac{^b\text{R\$9,600,000}}{10,000,000} = \text{R\$0.96}^*$$

*Rounded

EXERCISE 4-11 (20–25 minutes)

WOODS CORPORATION
Income Statement
For the Year Ended December 31, 2010

| | | |
|----------------------------------------------|-----------------------|---------------------------------|
| Net sales ^(a) | | \$4,062,000 |
| Cost of goods sold ^(b) | | <u>2,665,000</u> |
| Gross profit | | 1,397,000 |
| Selling expenses ^(c) | \$636,000 | |
| Administrative expenses ^(d) | <u>491,000</u> | <u>1,127,000</u> |
| Other income and expense | | <u>240,000</u> |
| Rent revenue | | 270,000 |
| Income from operations (interest) | | 510,000 |
| Interest expense | | <u>176,000</u> |
| Income before income tax | | 334,000 |
| Income tax (\$334,000 X .30) | | <u>100,200</u> |
| Income from continuing operations | | 233,800 |
| Discontinued operation | | |
| Loss on sale of division | \$ 60,000 | |
| Less: Applicable income tax | <u>18,000</u> | <u>(42,000)</u> |
| Net income | | <u><u>\$ 191,800</u></u> |

Au: Is it correct? Pls confirm

Earnings per share

(\$900,000 ÷ \$10 par value = 90,000 shares)

| | |
|--------------------------------------------------------------|-----------------------------|
| Income from continuing operations (\$233,800 ÷ 90,000) | \$2.60* |
| Discontinued operations, net of tax | <u>(0.47)*</u> |
| Net income | <u><u>\$2.13</u></u> |

***Rounded**

Supporting computations

(a) Net sales:

$$\$4,175,000 - \$34,000 - \$79,000 = \underline{\underline{\$4,062,000}}$$

(b) Cost of goods sold:

$$\$535,000 + (\$2,786,000 + \$72,000 - \$27,000 - \$15,000) - \$686,000 = \underline{\underline{\$2,665,000}}$$

EXERCISE 4-11 (Continued)

(c) Selling expenses:

$$\$284,000 + \$83,000 + \$69,000 + \$54,000 + \$93,000 + \$36,000 + \$17,000 = \underline{\$636,000}$$

(d) Administrative expenses:

$$\$346,000 + \$33,000 + \$24,000 + \$48,000 + \$32,000 + \$8,000 = \underline{\$491,000}$$

EXERCISE 4-12 (20–25 minutes)

(a) **McENTIRE CORPORATION**
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|----------------------------------------------------------------------------------------------|------------------|
| Balance, January 1, as reported | \$225,000* |
| Correction for depreciation error (net of \$5,000 tax)..... | (20,000) |
| Cumulative decrease in income from change in inventory methods (net of \$9,000 tax) | <u>(36,000)</u> |
| Balance, January 1, as adjusted | 169,000 |
| Add: Net income | <u>176,000**</u> |
| | 345,000 |
| Less: Dividends declared | <u>100,000</u> |
| Balance, December 31 | <u>\$245,000</u> |

*($\$40,000 + \$125,000 + \$160,000$) – ($\$50,000 + \$50,000$)

**[$\$220,000 - (20\% \times \$220,000)$]

- (b) Total retained earnings would still be reported as \$245,000. A restriction does not affect total retained earnings; it merely labels part of the retained earnings as being unavailable for dividend distribution. Retained earnings would be reported as follows:

Retained earnings:

| | |
|----------------------|------------------|
| Appropriated | \$ 70,000 |
| Unappropriated | <u>175,000</u> |
| Total | <u>\$245,000</u> |

EXERCISE 4-13 (15–20 minutes)

Net income:

| | | |
|-----------------------------------------|------------------|--------------------|
| Income before income tax..... | | €21,650,000 |
| Income tax (35% X €21,650,000) | | <u>7,577,500</u> |
| Income from continuing operations | | 14,072,500 |
| Discontinued operations | | |
| Loss before income tax..... | €3,225,000 | |
| Less: Applicable income tax (35%)..... | <u>1,128,750</u> | <u>(2,096,250)</u> |
| Net income..... | | <u>€11,976,250</u> |

Preference dividends declared: € 860,000

Weighted average shares outstanding 4,000,000

Earnings per share

| | |
|------------------------------------------|-----------------|
| Income from continuing operations | €3.30* |
| Discontinued operations, net of tax..... | <u>(0.52)**</u> |
| Net income..... | <u>€2.78***</u> |

* $(€14,072,500 - €860,000) \div 4,000,000$. (Rounded)

** $€2,096,250 \div 4,000,000$. (Rounded)

*** $(€11,976,250 - €860,000) \div 4,000,000$.

EXERCISE 4-14 (15–20 minutes)

| | | |
|-----|--------------------------------|------------------|
| (a) | | <u>2010</u> |
| | Income before income tax | \$460,000 |
| | Income tax (35%)..... | <u>161,000</u> |
| | Net Income | <u>\$299,000</u> |

(b) Cumulative effect for years prior to 2010:

| <u>Year</u> | <u>Weighted Average</u> | <u>FIFO</u> | <u>Difference</u> | <u>Tax Rate (35%)</u> | <u>Net Effect</u> |
|-------------|-----------------------------|-------------|-------------------|---------------------------|-------------------|
| 2008 | \$370,000 | \$395,000 | \$25,000 | | |
| 2009 | 390,000 | 420,000 | <u>30,000</u> | | |
| | | Total | \$55,000 | \$19,250 | \$35,750 |

| | | | | |
|-----|--------------------------|------------------|------------------|------------------|
| (c) | | <u>2010</u> | <u>2009</u> | <u>2008</u> |
| | Income before income tax | \$460,000 | \$420,000 | \$395,000 |
| | Income tax (35%) | <u>161,000</u> | <u>147,000</u> | <u>138,250</u> |
| | Net income | <u>\$299,000</u> | <u>\$273,000</u> | <u>\$256,750</u> |

EXERCISE 4-15 (15–20 minutes)

ARMSTRONG CORPORATION Income Statement and Comprehensive Income Statement For the Year Ended December 31, 2010

| | |
|------------------------------------------|-------------------|
| Sales | \$1,200,000 |
| Cost of goods sold..... | <u>720,000</u> |
| Gross profit | 480,000 |
| Selling and administrative expenses..... | <u>320,000</u> |
| Net income..... | <u>\$ 160,000</u> |
| Net income..... | \$ 160,000 |
| Unrealized holding gain | <u>15,000</u> |
| Comprehensive income | <u>\$ 175,000</u> |

EXERCISE 4-16 (15–20 minutes)

| | Share Capital—Ordinary | Retained Earnings | Unrealized Gains on Available-for-Sale Financial Assets | Total Equity |
|-------------------------------|---------------------------|----------------------|---------------------------------------------------------------|------------------|
| Beginning balance | \$350,000 | \$ 90,000 | \$80,000 | \$520,000 |
| Total comprehensive income | | 170,000* | (50,000) | 120,000 |
| Dividends | | (10,000) | | (10,000) |
| Ending balance | <u>\$350,000</u> | <u>\$250,000</u> | <u>\$30,000</u> | <u>\$630,000</u> |

*($\$750,000 - \$500,000 - \$80,000$).

EXERCISE 4-17 (30–35 minutes)

(a)

GIBSON INC. Income Statement For the Year Ended December 31, 2010

| | | |
|------------------------------------|-----------------|----------------|
| Sales | | \$1,700,000 |
| Cost of goods sold..... | | <u>850,000</u> |
| Gross profit | | 850,000 |
| Selling expenses..... | \$300,000 | |
| Administrative expenses | <u>240,000</u> | <u>540,000</u> |
| | | 310,000 |
| Other income and expense | | |
| Gain on sale of plant assets | 95,000 | |
| Rent revenue..... | 40,000 | |
| Loss on impairment of land..... | <u>(60,000)</u> | <u>75,000</u> |

EXERCISE 4-17 (Continued)

| | | |
|---------------------------------------------------|----------------------|-------------------------|
| Income before income tax..... | | 385,000 |
| Income tax | | <u>119,000</u> |
| Income from continuing operations | | 266,000 |
| Discontinued operations | | |
| Loss on discontinued operations | \$ 75,000 | |
| Less: Applicable income tax reduction | <u>25,500</u> | <u>(49,500)</u> |
| Net income..... | | 216,500 |
| Other comprehensive income | | |
| Unrealized holding gain | | <u>15,000</u> |
| Comprehensive income | | <u>\$231,500</u> |
| Earnings per share: | | |
| Income from continuing operations | | |
| (\$266,000 ÷ 100,000) | | \$2.66 |
| Loss on discontinued operations, net of tax | | <u>(0.49)</u> |
| Net income (\$216,500 ÷ 100,000)..... | | <u>\$2.17</u> |

(b)

GIBSON INC.
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|-------------------------------------|-------------------------|
| Retained earnings, January 1 | \$600,000 |
| Add: Net income | <u>216,500</u> |
| | 816,500 |
| Less: Dividends declared..... | <u>150,000</u> |
| Retained earnings, December 31..... | <u>\$666,500</u> |

EXERCISE 4-18 (10–15 minutes)

HASBRO INC.
Statement of Changes in Equity
For the year ended December 31, 2010

| | Share Capital— Ordinary | Retained Earnings | Unrealized gains on Available-for-Sale Financial Assets | Total Equity |
|---------------------------------------|----------------------------------------|------------------------------|------------------------------------------------------------------------|-------------------------|
| Beginning balance | \$300,000 | \$20,000 | \$50,000 | \$370,000 |
| Capital shares | 30,000 | | | 30,000 |
| Total comprehensive income | | 100,000 | (5,000) | 95,000 |
| Dividends | | (9,000) | | (9,000) |
| Ending balance | <u>\$330,000</u> | <u>\$111,000</u> | <u>\$45,000</u> | <u>\$486,000</u> |

TIME AND PURPOSE OF PROBLEMS

Problem 4-1 (Time 5–10 minutes)

Purpose—to provide the student with an opportunity to indicate where various transactions would be reported on the Statement of Comprehensive income or the Statement of Retained Earnings.

Problem 4-2 (Time 30–35 minutes)

Purpose—to provide the student with an opportunity to prepare an income statement and a retained earnings statement. A number of special items such as loss from discontinued operations, unusual items, and ordinary gains and losses are presented in the problem for analysis purposes.

Problem 4-3 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to prepare an income statement and a retained earnings statement. The student must determine through analysis the ending balance in retained earnings.

Problem 4-4 (Time 30–40 minutes)

Purpose—to provide the student with an opportunity to analyze a number of transactions and to prepare a partial income statement. The problem includes discontinued operations and the cumulative effect of a change in accounting principle.

Problem 4-5 (Time 30–40 minutes)

Purpose—to provide the student with the opportunity to prepare an income statement and a retained earnings statement from the same underlying information. A substantial number of operating expenses must be reported in this problem unlike Problem 4-1. As a consequence, the problem is time-consuming.

Problem 4-6 (Time 20–25 minutes)

Purpose—to provide the student with a problem on the income statement treatment of (1) an impairment of intangibles, (2) a loss on sale of equipment, (3) a correction of an error, and (4) earnings per share. The student is required not only to identify the proper income statement treatment but also to provide the rationale for such treatment.

Problem 4-7 (Time 25–35 minutes)

Purpose—to provide the student with an opportunity to prepare a retained earnings statement. A number of special items must be reclassified and reported in the income statement. This problem illustrates the fact that ending retained earnings is unaffected by the choice of disclosing items in the income statement or the retained earnings statement, although the income reported would be different.

Problem 4-8 (Time 25–35 minutes)

Purpose—to provide the student with a problem to determine the reporting of several items, which may get special treatment as irregular items. This is a good problem for a group assignment.

SOLUTIONS TO PROBLEMS

| |
|--------------------|
| PROBLEM 4-1 |
|--------------------|

1. E
2. C
3. A
4. C
5. B
6. G
7. C
8. B
9. H
10. F
11. C
12. D

| |
|--------------------|
| PROBLEM 4-2 |
|--------------------|

DICKINSON COMPANY
Income Statement
For the Year Ended December 31, 2010

| | | |
|--------------------------------------------------|-------------------------|----------------------------|
| Sales | | \$25,000,000 |
| Cost of goods sold..... | | <u>16,000,000</u> |
| Gross profit | | 9,000,000 |
| Selling and administrative expenses | | <u>4,700,000</u> |
| | | 4,300,000 |
| Other income and expense | | |
| Gain on the sale of investments | \$ 110,000 | |
| Loss due to flood damage | (390,000) | |
| Write-off of goodwill..... | <u>(820,000)</u> | <u>(1,100,000)</u> |
| Income from operations | | 3,200,000 |
| Interest expense..... | | <u>70,000</u> |
| Income before income tax | | 3,130,000 |
| Income tax..... | | <u>1,244,000</u> |
| Income from continuing operations..... | | 1,886,000 |
| Discontinued operations | | |
| Loss on operations, net of tax | 90,000 | |
| Loss on disposal, net of tax | <u>440,000</u> | <u>(530,000)</u> |
| Net income..... | | <u>\$ 1,356,000</u> |

PROBLEM 4-2 (Continued)

Earnings per share:

| | | |
|----------------------------------------|---------------|---------------------------|
| Income from continuing operations..... | | \$3.61 ^a |
| Discontinued operations | | |
| Loss on operations, net of tax | \$(0.18) | |
| Loss on disposal, net of tax..... | <u>(0.88)</u> | <u>(1.06)</u> |
| Net income..... | | <u>\$2.55^b</u> |

$$\frac{^a\$1,886,000 - \$80,000}{500,000 \text{ shares}} = \$3.61$$

$$\frac{^b\$1,356,000 - \$80,000}{500,000 \text{ shares}} = \$2.55$$

DICKINSON COMPANY Retained Earnings Statement For the Year Ended December 31, 2010

| | | |
|--------------------------------------|----------------|--------------------|
| Retained earnings, January 1 | | \$ 980,000 |
| Add: Net income | | <u>1,356,000</u> |
| | | 2,336,000 |
| Less: Dividends | | |
| Preference shares..... | \$ 80,000 | |
| Ordinary shares | <u>250,000</u> | <u>330,000</u> |
| Retained earnings, December 31 | | <u>\$2,006,000</u> |

PROBLEM 4-3

THOMPSON CORPORATION **Income Statement** **For the Year Ended December 31, 2010**

| | | |
|--------------------------------------------------|----------------------|------------------------|
| Net sales (£1,100,000 – £14,500 – £17,500) | | £1,068,000 |
| Cost of goods sold* | | <u>645,000</u> |
| Gross profit | | 423,000 |
| Selling expenses..... | £232,000 | |
| Administrative expenses | <u>99,000</u> | <u>331,000</u> |
| | | 92,000 |
| Other income and expense | | |
| Gain on sale of land | 30,000 | |
| Rent revenue..... | <u>18,000</u> | <u>48,000</u> |
| Income before income tax | | 140,000 |
| Income tax | | <u>53,900</u> |
| Net income | | <u>£ 86,100</u> |
| Earnings per share (£86,100 ÷ 30,000) | | <u>\$2.87</u> |

***Cost of goods sold: Can be verified as follows:**

| | | |
|--------------------------------------------|----------------------|-------------------------|
| Merchandise inventory, Jan. 1 | | £ 89,000 |
| Purchases | £610,000 | |
| Less: Purchase discounts | <u>10,000</u> | |
| Net purchases | 600,000 | |
| Add: Freight-in | <u>20,000</u> | <u>620,000</u> |
| Merchandise available for sale..... | | 709,000 |
| Less: Merchandise inventory, Dec. 31 | | <u>64,000</u> |
| Cost of goods sold | | <u>£ 645,000</u> |

PROBLEM 4-3 (Continued)

THOMPSON CORPORATION
Retained Earnings Statement
For the Year Ended December 31, 2010

| | |
|---------------------------------------------|------------------------|
| Retained earnings, January 1 | £160,000 |
| Add: Net income | <u>86,100</u> |
| | 246,100 |
| Less: Cash dividends | <u>45,000</u> |
| Retained earnings, December 31 | <u>£201,100</u> |

| |
|--------------------|
| PROBLEM 4-4 |
|--------------------|

MAHER INC.
Income Statement (Partial)
For the Year Ended December 31, 2010

| | | |
|---------------------------------------------------|----------------------|--------------------------------|
| Income before income tax | | \$748,500^(a) |
| Income tax (\$748,500 X .30) | | <u>224,550</u> |
| Income from continuing operations..... | | 523,950 |
| Discontinued operations | | |
| Loss from disposal of recreational division | \$115,000 | |
| Less: Applicable income tax reduction | <u>34,500</u> | <u>(80,500)</u> |
| Net income | | <u>\$443,450</u> |
| Earnings per share: | | |
| Income from operations..... | | \$4.37* |
| Discontinued operations, net of tax..... | | <u>(0.67)*</u> |
| Net income (\$443,450 ÷ 120,000)..... | | <u>\$3.70</u> |

***Rounded**

PROBLEM 4-4 (Continued)

(a) Computation of income before income tax:

| | | |
|------------------------------------------------|----------------|------------------|
| As previously stated | | \$790,000 |
| Uninsured flood loss..... | | (90,000) |
| Gain on sale of securities..... | | 47,000 |
| Error in computation of depreciation | | |
| As computed ($\$54,000 \div 6$)..... | \$9,000 | |
| Corrected ($\$54,000 - \$9,000 \div 6$)..... | <u>(7,500)</u> | <u>1,500</u> |
| As restated | | <u>\$748,500</u> |

Note: No adjustment is needed for the inventory method change, since the new method is reported in 2010 income. The cumulative effect on prior years of retroactive application of the new inventory method will be recorded in retained earnings.

| |
|--------------------|
| PROBLEM 4-5 |
|--------------------|

TWAIN CORPORATION
Income Statement
For the Year Ended June 30, 2010

Sales Revenue

| | | | |
|----------------------------|---------------|----------------|--|
| Sales | | \$1,578,500 | |
| Less: Sales discounts..... | \$31,150 | | |
| Sales returns | <u>62,300</u> | <u>93,450</u> | |
| Net sales | | 1,485,050 | |
| Cost of goods sold..... | | <u>896,770</u> | |
| Gross profit | | 588,280 | |

Selling expenses

| | | | |
|----------------------------------|--------------|---------|--|
| Sales commissions | \$97,600 | | |
| Sales salaries | 56,260 | | |
| Travel expense..... | 28,930 | | |
| Freight-out..... | 21,400 | | |
| Entertainment expense | 14,820 | | |
| Telephone and internet exp. | 9,030 | | |
| Building expense | 6,200 | | |
| Depr. of sales equipment | 4,980 | | |
| Bad debt expense | 4,850 | | |
| Misc. selling expenses | <u>4,715</u> | 248,785 | |

PROBLEM 4-5 (Continued)

Administrative Expenses

| | | | |
|---------------------------------------------------------|--------------|---------------|----------------|
| Building expense | 9,130 | | |
| Real estate and other local taxes | 7,320 | | |
| Depreciation of office furniture and equipment | 7,250 | | |
| Office supplies used | 3,450 | | |
| Telephone and internet expense | 2,820 | | |
| Miscellaneous office expenses | <u>6,000</u> | <u>35,970</u> | <u>284,755</u> |
| | | | 303,525 |

Other income and expense

| | | | |
|--------------------------------|--|--|-------------------|
| Dividend revenue | | | <u>38,000</u> |
| Income from operations | | | 341,525 |
| Bond interest expense | | | <u>18,000</u> |
| Income before income tax | | | 323,525 |
| Income tax | | | <u>102,000</u> |
| Net income | | | <u>\$ 221,525</u> |

Earnings per share

| | |
|---------------------------------------------|----------------|
| $[(\$221,525 - \$9,000) \div 80,000]$ | <u>\$2.66*</u> |
|---------------------------------------------|----------------|

*Rounded

PROBLEM 4-5 (Continued)

TWAIN CORPORATION
Retained Earnings Statement
For the Year Ended June 30, 2010

| | | |
|----------------------------------------------------------------|----------------------|-------------------------|
| Retained earnings, July 1, 2009, as reported | | \$337,000 |
| Correction of depreciation understatement, net of tax | | <u>(17,700)</u> |
| Retained earnings, July 1, 2009, as adjusted | | 319,300 |
| Add: Net income | | <u>221,525</u> |
| | | 540,825 |
| Less: | | |
| Dividends declared on preference shares | 9,000 | |
| Dividends declared on ordinary shares | <u>37,000</u> | <u>46,000</u> |
| Retained earnings, June 30, 2010 | | <u>\$494,825</u> |

PROBLEM 4-6

- 1. The impairment of intangibles charge of ¥8,500,000 should be disclosed separately, assuming it is material. This charge is shown above income before income tax and would not be reported net of tax. This item should be separately disclosed to inform the users of the financial statements that this item is nonrecurring and therefore may not impact next year's results. Furthermore, trend comparisons may be misleading if such an item is not highlighted and adjustments made.**
- 2. The loss on sale of equipment of ¥17,000,000 should be reported in the other income and expense section of the income statement. The reason for the separate disclosure is much the same as that given above for the separate disclosure of the impairment of intangibles charge.**
- 3. The adjustment required for correction of an error is inappropriately labeled and also should not be reported in the retained earnings statement. Changes in estimate should be handled in current and future periods through the income statement. Catch-up adjustments are not permitted. To restate financial statements every time a change in estimate occurred would be extremely costly. In addition, adjusting the beginning balance of retained earnings is inappropriate as the increased charge in this case affects current and future income statements.**
- 4. Earnings per share should be reported on the face of the income statement and not in the notes to the financial statements. Because such importance is ascribed to this statistic, the profession believes it necessary to highlight the earnings per share figure.**

| |
|--------------------|
| PROBLEM 4-7 |
|--------------------|

(a) ACADIAN CORP.

**Retained Earnings Statement
For the Year Ended December 31, 2010**

| | |
|----------------------------------------------------|------------------|
| Retained earnings, January 1, as reported..... | \$257,600 |
| Correction of error from prior period..... | 25,400 |
| Adjustment for change in accounting principle..... | <u>(23,200)</u> |
| Retained earnings, January 1, as adjusted..... | 259,800 |
| Add: Net income..... | 52,300* |
| Less: Cash dividends declared | <u>32,000</u> |
| Retained earnings, December 31 | <u>\$280,100</u> |

*\$52,300 = (\$84,500 + \$41,200 + \$21,600 – \$35,000 – \$60,000)

- (b)**
- 1. Gain on sale of investments—body of income statement. This gain should be shown under other income and expense on the income statement.**
 - 2. Refund on litigation with government—body of income statement. This refund should be shown under other income and expense on the income statement.**
 - 3. Loss on discontinued operations—body of the income statement, following the caption, “Income from continuing operations.”**
 - 4. Write-off of goodwill—body of income statement. The write-off should be shown under other income and expense on the income statement.**

| |
|--------------------|
| PROBLEM 4-8 |
|--------------------|

WADE CORP.
Income Statement (Partial)
For the Year Ended December 31, 2010

| | | | |
|-----------------------------------------|---------------|---------------|------------------|
| Income before income tax..... | | | €1,325,000* |
| Income tax | | | <u>265,000**</u> |
| Income from continuing operations | | | 1,060,000 |
| Discontinued operations | | | |
| Loss from operations of | | | |
| discontinued subsidiary..... | € 90,000 | | |
| Less: Applicable income tax | | | |
| reduction..... | <u>18,000</u> | €72,000 | |
| Loss from disposal of subsidiary | 100,000 | | |
| Less: Applicable income tax | | | |
| reduction..... | <u>20,000</u> | <u>80,000</u> | <u>(152,000)</u> |
| Net income | | | <u>€ 908,000</u> |

Earnings per share:

| | | | |
|------------------------------------------|--|--|---------------|
| Income from continuing operations | | | €7.06 |
| Discontinued operations, net of tax..... | | | <u>(1.01)</u> |
| Net income (€908,000 ÷ 150,000)..... | | | <u>€6.05</u> |

PROBLEM 4-8 (Continued)

*Computation of income before income tax:

| | |
|-----------------------------------------------------------|-------------------|
| As previously stated | €1,210,000 |
| Loss on sale of equipment [€40,000 – (€80,000 – €30,000)] | (10,000) |
| Gain on condemnation of property | <u>125,000</u> |
| Restated | <u>€1,325,000</u> |

**Computation of income tax expense:

$$€1,325,000 \times .20 = \underline{\underline{€265,000}}$$

Note: The error related to the intangible asset was correctly charged to retained earnings.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 4-1 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to comment on deficiencies in an income statement format. The student is required to comment on such items as inappropriate heading, incorrect classification of unusual items, proper net of tax treatment, and presentation of per share data.

CA 4-2 (Time 10–15 minutes)

Purpose—to provide the student a real company context to identify factors that make income statement information useful. The focus is on overly-aggregated information in a condensed income statement. Additional detail would seem to be warranted either on the face of the statement or with reference to the notes.

CA 4-3 (Time 20–25 minutes)

Purpose—to provide the student an illustration of how earnings can be managed. The case allows students to see the effects of warranty expense timing on the trend of income and illustrates the potential use of accruals to smooth earnings.

CA 4-4 (Time 15–20 minutes)

Purpose—to provide the student an illustration of how earnings can be managed by how losses are reported, including ethical issues.

CA 4-5 (Time 30–35 minutes)

Purpose—to provide the student with an unstructured case to comment on the reporting of discontinued operations. In addition, the student is asked to comment on materiality considerations and earnings per share implications.

CA 4-6 (Time 30–40 minutes)

Purpose—to provide the student with the opportunity to comment on deficiencies in an income statement. This case includes discussion of discontinued items, and ordinary gains and losses. The case is complete and therefore provides a broad overview to a number of items discussed in the textbook.

CA 4-7 (Time 20–25 minutes)

Purpose—to provide the student with a variety of situations involving classification of unusual items. This case is different from CA 4-6 in that an income statement is not presented. Instead, short factual situations are described. A good comprehensive case for discussing the presentation of unusual items.

CA 4-8 (Time 10–15 minutes)

Purpose—to provide the student with an opportunity to show how comprehensive income should be reported.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 4-1

The deficiencies of O'Malley Corporation's income statement are as follows:

1. The heading is inappropriate. The heading should include the name of the company and the period of time for which the income statement is presented.
2. Dividends and gain on recovery of insurance proceeds should be classified as other income and expense items.
3. Cost of goods sold is usually listed as the first expense, followed by selling, administrative, and other expenses.
4. Loss on obsolescence of inventories should be classified as an other income and expense item.
5. Loss on discontinued operations requires a separate classification after income from continuing operations and before presentation of net income.
6. Intraproduct income tax allocation is required to relate income tax expense to income from continuing operations, and loss on discontinued operations.
7. Interest expense should be shown as a deduction from income from operations in determining income before income tax.
8. Per share data is a required presentation for income from continuing operations, discontinued operations, and net income.

CA 4-2

- (a) The main deficiency in the Boeing income statement is that important information is being aggregated, particularly in the "Costs and expenses" line item. More detail likely could be found in Boeing's notes. However, the condensed income statement may be the one that investors and creditors rely upon. Also, earnings per share should be reported.
- (b) Boeing could provide additional details on the expenses included in "Costs and expenses" on the face of the income statement. Alternatively, the company could provide the information in the notes to the financial statements, which could be referenced on the face of the income statement.

CA 4-3

- (a) Earnings management is often defined as the planned timing of revenues, expenses, gains and losses to smooth out bumps in earnings. In most cases, earnings management is used to increase income in the current year at the expense of income in future years. For example, companies prematurely recognize sales before they are complete in order to boost earnings. Earnings management can also be used to decrease current earnings in order to increase income in the future. The classic case is the use of “cookie jar” reserves, which are established, by using unrealistic assumptions to estimate liabilities for such items as sales returns, loan losses, and warranty costs.

| (b) Proposed Accounting | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|
| Income before warranty expense | | | | €43,000 | €43,000 |
| Warranty expense | | | | 7,000 | 3,000 |
| Income | <u>€20,000</u> | <u>€25,000</u> | <u>€30,000</u> | <u>€36,000</u> | <u>€40,000</u> |

Assuming the same income before warranty expense for both 2010 and 2011 and total warranty expense over the 2-year period of €10,000, this proposed accounting results in steadily increasing income over the two-year period.

| (c) Appropriate Accounting | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> |
|-----------------------------------|----------------|----------------|----------------|----------------|----------------|
| Income before warranty expense | | | | €43,000 | €43,000 |
| Warranty expense | | | | 5,000 | 5,000 |
| Income | <u>€20,000</u> | <u>€25,000</u> | <u>€30,000</u> | <u>€38,000</u> | <u>€38,000</u> |

The appropriate accounting would be to record €5,000 of warranty expense in 2010, resulting in income of €38,000. However, with the same amount of warranty expense in 2011, Bobek no longer shows an increasing trend in income. Thus, by taking more expense in 2010, Bobek can save some income (a classic case of “cookie-jar” reserves) and maintain growth in income.

CA 4-4

- (a) The ethical issues involved are integrity and honesty in financial reporting, full disclosure, accountant’s professionalism, and job security for Charlie.
- (b) If Charlie believes the losses are relevant information important to users of the income statement, he should disclose the losses separately. If they are considered incidental to the company’s normal activities—i.e., the major activities of the Kelly Corporation do not include selling equipment—the transactions should be reported among any gains and losses that occurred during the year.

CA 4-5

- (a) It appears that the sale of the Casino Knights Division would qualify as a discontinued operation. The operation of gambling facilities appears to meet the criteria for discontinued operations for Simpson Corp. and, therefore, the accounting requirements related to discontinued operations should be followed. Although the financial vice-president might be correct theoretically, professional pronouncements require that such a segregation be made. The controller is correct in stating that the disposal of the Casino Knights Division should be reported separately as gain on discontinued operations. A separate classification is required for disposals meeting the requirements of discontinued operations.

CA 4-5 (Continued)

- (b) The “walkout” or strike should be reported as an other income and expense item. Events of this nature are a general risk that any business enterprise takes and should not warrant special treatment.
- (c) The financial vice president is incorrect in his/her observations concerning the materiality of discontinued operations items. The materiality of each discontinued operations item must be considered individually. It is not appropriate to consider only the materiality of the net effect. Each discontinued operations item must be reported separately on the income statement.
- (d) Earnings per share for income from continuing operations, discontinued operations, and net income must be reported on the face of the income statement.

CA 4-6

The income statement of Walters Corporation contains the following weaknesses in classification and disclosure:

1. **Sales taxes.** Sales taxes have been erroneously included in both gross sales and cost of goods sold on the income statement of Walters Corporation. Failure to deduct these taxes directly from customer billings results in a deceptive inflation of the amount of sales. These taxes should be deducted from gross sales because the corporation acts as an agent in collecting and remitting such taxes to the government.
2. **Purchase discounts.** Purchase discounts should not be treated as revenue by being lumped with other revenues such as dividends and interest. A purchase discount is more logically a reduction of the cost of purchases because revenue is not created by purchasing goods and paying for them. In a cash transaction, cost is measured by the amount of the cash consideration. In a credit transaction, however, cost is measured by the amount of cash required to settle immediately the obligation incurred. The discount should reduce the cost of goods sold to the amount of cash that would be required to settle the obligation immediately.
3. **Recoveries of accounts written off in prior years.** These collections should be credited to the allowance for doubtful accounts unless the direct write-off method was used in accounting for bad debt expense. Generally, the direct write-off method is not allowed.
4. **Freight-in and freight-out.** Although freight-out is an expense of selling and is therefore reported properly in the statement, freight-in is an inventoriable cost and should have been included in the computation of cost of goods sold. The value assigned to inventory should represent the value of the economic resources given up in obtaining goods and readying them for sale.
5. **Loss on discontinued styles.** This type of loss, though often substantial, should not be treated as unusual item because it is apparently typical of the customary business activity of the corporation (and it is not a discontinued component). It should be reported in “Costs and expenses” as an operating expense.
6. **Loss on sale of marketable securities.** This item should be reported as a separate component of income from continuing operations and not as an unusual item.

CA 4-6 (Continued)

7. **Loss on sale of warehouse.** This item should be reported as a separate component of income from continuing operations and not as an unusual item.
8. **Income taxes.** The provision for income taxes and intraperiod tax allocation are not presented in the income statement. This omission implies that the income tax is a distribution of net income instead of an operating expense and a determinant of net income. This assumption is not as relevant to the majority of financial statement users as the concept of net income to investors, shareholders, or residual equity holders.
9. Other items (dividends, interest) should be classified as “other income and expense.”

CA 4-7

| <u>Classification</u> | <u>Rationale</u> |
|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. No disclosure. | Error has “washed out”; that is, subsequent income statement compensated for the error. However, prior year income statements should be restated. |
| 2. Other income and expense section. | Material, unusual in nature, and non-recurring. |
| 3. Depreciation expense in body of income statement, based on new useful life. | Material item, but change in estimated useful life is considered part of normal business activity. |
| 4. No separate disclosure unless material. | Change in estimate, considered part of normal business activity. |
| 5. Discontinued operations section. | Sale meet the criteria for the disposal of a component of a business. |
| 6. Adjustment to the beginning balance of retained earnings. | A change in inventory methods is a change in accounting principle and prior periods are adjusted. |
| 7. Other income and expense section. | Material, unusual in nature, and non-recurring. |
| 8. Other income and expense section. | Material, unusual in nature, and non-recurring. |
| 9. Prior period adjustment, adjust beginning retained earnings. | Corrections of errors are shown as prior period adjustments. |
| 10. Other income and expense section. | Material, unusual in nature, and non-recurring. |
| 11. Discontinued operations section. | Division’s assets, results of operations, and activities are clearly distinguishable physically, operationally, and for financial reporting purposes. |

CA 4-8

- | (a) <u>Separate Statement</u> | <u>Current Year</u> | <u>Prior Year</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|
| ... income components ... | | |
| Net income | <u>\$400,000</u> | <u>\$410,000</u> |
| Statement of Comprehensive Income | | |
| Net income | \$400,000 | \$410,000 |
| Unrealized gains | <u>15,000</u> | <u> </u> |
| Comprehensive income | <u>\$415,000</u> | <u>\$410,000</u> |
| (b) <u>Combined Format</u> | | |
| ... income components ... | | |
| Net income | \$400,000 | \$410,000 |
| Other comprehensive income | | |
| Unrealized gains | <u>15,000</u> | <u> </u> |
| Comprehensive income | <u>\$415,000</u> | <u>\$410,000</u> |
| (c) Nelson can choose either approach, according to IFRS. The method chosen should be based on which one provides the most useful information. For example, Nelson should not choose the combined format because the gains result in an increasing trend in comprehensive income, while net income is declining. | | |

FINANCIAL REPORTING PROBLEM

- (a) M&S uses a condensed format income statement. This format provides highlights of a company's performance without presenting unnecessary detailed computations.
- (b) M&S's primary revenue sources are from General merchandise (£4,551.0m) and from Food (£4,471.0m).
- (c) M&S's gross profit was £3,341.2m in 2007 and increased to £3,486.8m in 2008. Gross profit increased in 2008 because Revenue increased £433.9m while cost of sales increased only £288.3m.
- (d) M&S reports operating profit separately from nonoperating profit because nonoperating profit is non-recurring and not expected to arise in the future. In order to make valid comparisons between companies and years, nonoperating must be reported separately from operating profit.
- (e) M&S did report Non-GAAP measures. The adjusted profit and earnings per share measures provide additional useful information for shareholders on the underlying performance of the business. The adjustments made to reported profit before tax are to exclude the (1) exceptional income and charges and (2) profits and losses on the disposal of properties.

COMPARATIVE ANALYSIS CASE

- (a) Cadbury's 14.6% increase in revenues from 2007 to 2008 was substantially greater than Nestlé's 2.2% increase.
- (b) Cadbury reported a loss from discontinued operations of £4 million. Since discontinued operations are considered non-recurring in nature, using the gain (loss) from discontinued operations in comparisons between two companies could cause distorted conclusions. Comparisons between companies should be based on income from continuing operations rather than net income.
- (c) Cadbury's depreciation and amortization expense was 41.8% ($£196 \div £469$) of its 2008 operating cash flow and was significantly higher than Nestlé's 30.2% ($CHF3,249 \div CHF10,763$). One reason for this difference is the substantial difference in depreciable amortizable assets (38.7% of assets for Cadbury vs. 84.6% of assets for Nestlé).
- (d) Both companies reported profit attributed to minority interests. Nestlé has a minority interest of 5.3% ($CHF1,012 \div CHF19,051$) while Cadbury's minority interest is only .5% ($£2 \div £366$).

FINANCIAL STATEMENT ANALYSIS CASE 1

(a) Depending on the company chosen, student answers will vary. Given the ready availability, the analysis for Nokia is provided below:

Z-Score Analysis

$$Z = \frac{\text{Working Capital}}{\text{Total Assets}} \times 1.2 + \frac{\text{Retained Earnings}}{\text{Total Assets}} \times 1.4 + \frac{\text{EBIT}}{\text{Total Assets}} \times 3.3 + \frac{\text{Sales}}{\text{Total Assets}} \times .99 + \frac{\text{MV Equity}}{\text{Total Liabilities}} \times 0.6$$

Nokia (\$000,000)

| | | | Z-Score | | | Z-Score | |
|------------------------------------|---------------|----------|--------------|---------------|----------|--------------|--|
| | 2008 | Weights | 2008 | 2007 | Weights | 2007 | |
| Total Assets | €39,582 | | | €37,599 | | | |
| Current Assets | 24,470 | | | 29,294 | | | |
| Current Liabilities | <u>20,355</u> | | | <u>18,976</u> | | | |
| Working Capital | 4,115 | | | 10,318 | | | |
| Working Capital/Assets | 0.104 | X 1.2 = | 0.125 | 0.274 | X 1.2 = | 0.329 | |
| Retained Earnings | €11,692 | | | €13,870 | | | |
| Retained Earnings/Assets | 0.295 | X 1.4 = | 0.413 | 0.369 | X 1.4 = | 0.517 | |
| EBIT | €5,155 | | | €8,311 | | | |
| EBIT/Assets | 0.130 | X 3.3 = | 0.429 | 0.221 | X 3.3 = | 0.729 | |
| Sales | €50,710 | | | €51,058 | | | |
| Sales/Assets | 1.281 | X 0.99 = | 1.268 | 1.358 | X 0.99 = | 1.344 | |
| MV Equity* | €41,048 | | | €101,996 | | | |
| Total Liabilities | 23,072 | | | 20,261 | | | |
| MV Equity/Total Liabilities | 1.779 | X 0.6 = | <u>1.067</u> | 5.034 | X 0.6 = | <u>3.020</u> | |
| | | Total = | <u>3.302</u> | | Total = | <u>5.939</u> | |
| *Market Price X Shares Outstanding | | | | | | | |
| Market Price (year-end) | €11.10 | | | €26.52 | | | |
| Shares Outstanding | 3,698 | | | 3,846 | | | |
| Total Equity | €41,048 | | | €101,996 | | | |

FINANCIAL STATEMENT ANALYSIS CASE 1 (Continued)

- (b) Nokia's Z-score in 2008 has declined significantly but is still above the cutoff score for companies that are unlikely to fail. The company has declined in all areas in 2008, compared to 2007.**

Note to instructors—as an extension, students could be asked to conduct the analysis on companies which are in financial distress to examine whether their financial distress could have been predicted in advance.

- (c) EBIT is an operating income measure. By adding back items less relevant to predicting future operating results (interest, taxes), it is viewed as a better indicator of future profitability.**

FINANCIAL STATEMENT ANALYSIS CASE 2

- (a) Assumptions and estimates related to items such as bad debt expense, warranties, or the useful lives or residual values for fixed assets could result in income being overstated.
- (b) See the table below.

| <u>December 31, 2008</u> | <u>Price</u> | <u>EPS</u> | <u>Sales per Share</u> | <u>P/E</u> | <u>PSR</u> |
|--------------------------|--------------|------------|----------------------------|------------|------------|
| Addidas | € 27.14 | €3.25 | €55.79 | 8.35 | .49 |
| JJB sports | 112.50P | 4.07P | 3.43 | 27.64 | 32.80 |

- (c) JJB sports has a higher P/E relative to addidas by 330%. But JJB's PSR is 67 times higher than that for JJB sports. Thus, it would appear that JJB's stock is overpriced, and by a bigger margin when using the sales-based PSR. This may suggest a lower quality of earnings for JJB sports.

INTERNATIONAL REPORTING CASE

- (a) Some of the differences are:
1. **Units of currency**—Campbell and all U.S. companies report in dollars and earnings per share in dollars and cents. International companies using IFRS report in a variety of currencies.
 2. **Terminology**—Finance costs are referred to as interest expense by Campbell and income is replaced with earnings.
 3. **Campbell does not report either gross profit or income from operations in its Statement of Earnings.** These items would be reported by Campbell if it prepared a detailed income statement.

Some similarities are:

1. **Campbell appears to use a function-of-expense approach.** It may provide additional nature-of-expense information in the notes.
 2. **Campbell classifies separately non-operations items (finance revenues and costs and discontinued operations).**
 3. **Campbell reports EPS information on the face of the income statement.**
- (b) The “Earnings from discontinued operations” is an example of a non-recurring item. As in IFRS companies’ income statements, these items are included in the measurement of income but they are separate from income from continuing operations, likely due to their non-recurring nature. U.S. companies also report interest expense under a separate heading in the income statement. This distinguishes income from the operating and financing activities of the company.

ACCOUNTING, ANALYSIS, PRINCIPLES

ACCOUNTING

COUNTING CROWS, INC. Statement for the Income Year Ended December 31, 2010

| | | |
|--------------------------------------------------|----------------|-------------------|
| Sales | | \$1,900,000 |
| Cost of goods sold | | <u>850,000</u> |
| Gross profit | | 1,050,000 |
| Selling expenses | \$300,000 | |
| Administrative expenses | <u>240,000</u> | <u>540,000</u> |
| | | 510,000 |
| Other Income and expense | | |
| Gain on sale of investments..... | 62,700 | |
| Rent revenue | <u>40,000</u> | <u>102,700</u> |
| Income before income tax..... | | 612,700 |
| Income tax | | <u>187,000</u> |
| Income from continuing operations | | 425,700 |
| Discontinued operations | | |
| Loss on discontinued operations..... | \$ 75,000 | |
| Less: Applicable income tax reduction..... | <u>25,500</u> | <u>(49,500)</u> |
| Net income | | <u>\$ 376,200</u> |
| Per share: | | |
| Income from continuing operations | | |
| (\$425,700 ÷ 100,000)..... | | 4.26 |
| Loss on discontinued operations, net of tax..... | | <u>(0.50)</u> |
| Net income (\$376,200 ÷ 100,000)..... | | <u>\$3.76</u> |

COUNTING CROWS, INC. Statement of Retained Earnings Year Ended December 31, 2010

| | |
|--------------------------------------|------------------|
| Retained earnings, January 1 | \$600,000 |
| Net income | <u>376,200</u> |
| | 976,200 |
| Dividends declared..... | <u>(80,000)</u> |
| Retained earnings, December 31 | <u>\$896,200</u> |

ACCOUNTING, ANALYSIS, PRINCIPLES (Continued)

COUNTING CROWS, INC.
Statement of Comprehensive Income
Year Ended December 31, 2010

| | |
|-------------------------------------------|------------------|
| Net income | \$376,200 |
| Other comprehensive income: | |
| Unrealized holding gain, net of tax | <u>15,000</u> |
| Comprehensive income | <u>\$391,200</u> |

ANALYSIS

The detailed income statement recognizes important relationships between income statement elements. For example, by separating operating transactions from nonoperating transactions, the statement user can distinguish between elements with differing implications for future operating results. In addition, the detailed format generally groups costs and expenses with related revenues (e.g., cost of goods sold with sales to yield a gross profit measure). Finally, the detailed format highlights certain intermediate components of income that analysts use to compute ratios for assessing the performance of the company.

PRINCIPLES

Pro forma reporting is inconsistent with the conceptual framework’s qualitative characteristic of comparability. For example, similar to the discussion in the opening story, if Counting Crows Inc. classifies some items in a pro forma manner but other companies do not, investors and creditors will not be able to compare the reported incomes.

Note to instructor: This is the reason the U.S. SEC issued Regulation G, which requires companies that list securities in U.S. markets and that issue pro forma income reports to provide reconciliation to income measured under U.S. GAAP, which interested parties can then compare across companies.

- (a) International Accounting Standard 1, Presentation of Financial Statements addresses the statement of comprehensive income reporting. This standard was issued in September 2007 and includes subsequent amendments resulting from IFRSs issued up to 30 November 2008. Its effective date is 1 January 2009.**
- (b) Total comprehensive income is the change in equity during a period resulting from transactions and other events, other than those changes resulting from transactions with owners in their capacity as owners. Total comprehensive income comprises all components of 'profit or loss' and of 'other comprehensive income' (Paragraph 7).**
- (c) Paragraphs 85 and 86 provide the rationale for presenting additional information: An entity shall present additional line items, headings and subtotals in the statement of comprehensive income and the separate income statement (if presented), when such presentation is relevant to an understanding of the entity's financial performance (Para. 85).**

Because the effects of an entity's various activities, transactions and other events differ in frequency, potential for gain or loss and predictability, disclosing the components of financial performance assists users in understanding the financial performance achieved and in making projections of future financial performance. An entity includes additional line items in the statement of comprehensive income and in the separate income statement (if presented), and it amends the descriptions used and the ordering of items when this is necessary to explain the elements of financial performance. An entity considers factors including materiality and the nature and function of the items of income and expense. For example, a financial institution may amend the descriptions to provide information that is relevant to the operations of a financial institution. An entity does not offset income and expense items unless the criteria in paragraph 32 are met (Para. 86).

PROFESSIONAL RESEARCH (Continued)

- (d) When items of income or expense are material, an entity shall disclose their nature and amount separately (Para. 97).**

Circumstances that would give rise to the separate disclosure of items of income and expense include:

- a. write-downs of inventories to net realisable value or of property, plant and equipment to recoverable amount, as well as reversals of such write-downs;**
 - b. restructurings of the activities of an entity and reversals of any provisions for the costs of restructuring;**
 - c. disposals of items of property, plant and equipment;**
 - d. disposals of investments;**
 - e. discontinued operations;**
 - f. litigation settlements; and**
 - g. other reversals of provisions.**
- (Para. 98).**

PROFESSIONAL SIMULATION

Explanation

As indicated in the income statement below, the loss on abandonment is reported as an “other income and expense.” The gain on disposal of a business component is reported as part of discontinued operations, net of tax. The change in inventory costing from FIFO to average cost is a change in accounting principle. The cumulative effect of a change in accounting principle is adjusted through the beginning balance of retained earnings. Gross profit is €1,280,000, income from operations is €660,000; income before income taxes is €590,000; net income is €476,000; and earnings per share (on net income) is €4.76.

Measurement

JUDE LAW CORPORATION Income Statement For the Year Ended December 31, 2010

| | | |
|-------------------------------------------------|-----------------|----------------------|
| Sales | | €3,200,000 |
| Cost of goods sold | | <u>1,920,000</u> |
| Gross profit | | 1,280,000 (a) |
| Selling expenses | €340,000 | |
| Administrative expenses | <u>280,000</u> | <u>620,000</u> |
| | | 660,000 (b) |
| Other income and expense | | |
| Interest revenue | 10,000 | |
| Loss from earthquake | (40,000) | |
| Loss from plant abandonment | <u>(40,000)</u> | <u>(70,000)</u> |
| Income before income tax | | 590,000 (c) |
| Income tax (30% X \$590,000) | | <u>177,000</u> |
| Income from continuing operations | | 413,000 |
| Discontinued operations | | |
| Gain on disposal of component of business | 90,000 | |
| Less: Applicable income tax | <u>27,000</u> | <u>63,000</u> |
| Net income | | <u>€ 476,000 (d)</u> |

PROFESSIONAL SIMULATION (Continued)

Per capital share

| | |
|-------------------------------------------------|-------------------------|
| Income from continuing operations..... | €4.13 |
| Discontinued operations, net of tax..... | <u>0.63</u> |
| Net income..... | <u>€4.76</u> (e) |

Note to instructor: The change for inventory costing is reflected in the current year’s cost of goods sold. If comparative statements are presented, prior year’s income statements would be recast as under the new method. The cumulative effect of the change in accounting principle is shown as an adjustment to beginning retained earnings.

CHAPTER 5

Statement of Financial Position and Statement of Cash Flows

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|---------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------|------------------------|---------------------|-----------------------|
| 1. Disclosure principles, uses of the statement of financial position, financial flexibility. | 1, 2, 3, 4, 5, 6, 7, 10, 18, 21, 29, 30 | | | | 4, 5 |
| 2. Classification of items in the statement of financial position and other financial statements. | 11, 12, 13, 14, 15, 16, 18, 19 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 | 1, 2, 3, 8, 9, 10 | | 1, 2, 3 |
| 3. Preparation of statement of financial position; issues of format, terminology, and valuation. | 4, 7, 8, 9, 16, 17, 20 | | 4, 5, 6, 7, 11, 12, 17 | 1, 2, 3, 4, 5, 6, 7 | 3, 4, 5 |
| 4. Statement of cash flows. | 21, 22, 23, 24, 25, 26, 27, 28 | 12, 13, 14, 15, 16 | 13, 14, 15, 16, 17, 18 | 6, 7 | 6 |
| 5. Convergence. | 31, 32, 33 | | | | |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|-----------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|---------------------|
| 1. Explain the uses and limitations of a statement of financial position. | | | 7 |
| 2. Identify the major classifications of the statement of financial position. | | 1, 2, 3, 4, 8, 9 | |
| 3. Prepare a classified statement of financial position using the report and account formats. | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 | 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 17 | 1, 2, 3, 4, 5, 6, 7 |
| 4. Indicate the purpose of the statement of cash flows. | | | |
| 5. Identify the content of the statement of cash flows. | | 13 | |
| 6. Prepare a basic statement of cash flows. | 12, 13, 14, 15 | 14, 15, 16, 17, 18 | 6, 7 |
| 7. Understand the usefulness of the statement of cash flows. | 16 | 15, 16, 18 | 6, 7 |
| 8. Determine additional information requiring note disclosure. | | | |
| 9. Describe the major disclosure techniques for financial statements. | | | |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|-------|----------------------------------------------------------------------------------|---------------------|----------------|
| E5-1 | Statement of financial position classifications. | Simple | 15–20 |
| E5-2 | Classification of statement of financial position accounts. | Simple | 15–20 |
| E5-3 | Classification of statement of financial position accounts. | Simple | 15–20 |
| E5-4 | Preparation of a classified statement of financial position. | Simple | 30–35 |
| E5-5 | Preparation of a corrected statement of financial position. | Simple | 30–35 |
| E5-6 | Corrections of a statement of financial position. | Complex | 30–35 |
| E5-7 | Current assets section of the statement of financial position. | Moderate | 15–20 |
| E5-8 | Current vs. non-current liabilities. | Moderate | 10–15 |
| E5-9 | Current assets and current liabilities. | Complex | 30–35 |
| E5-10 | Current liabilities. | Moderate | 15–20 |
| E5-11 | Statement of financial position preparation. | Moderate | 25–30 |
| E5-12 | Preparation of a statement of financial position. | Moderate | 30–35 |
| E5-13 | Statement of cash flows—classifications. | Moderate | 15–20 |
| E5-14 | Preparation of a statement of cash flows. | Moderate | 25–35 |
| E5-15 | Preparation of a statement of cash flows. | Moderate | 25–35 |
| E5-16 | Preparation of a statement of cash flows. | Moderate | 25–35 |
| E5-17 | Preparation of a statement of cash flows and a statement of financial position. | Moderate | 30–35 |
| E5-18 | Preparation of a statement of cash flows, analysis. | Moderate | 25–35 |
| P5-1 | Preparation of a classified statement of financial position, periodic inventory. | Moderate | 30–35 |
| P5-2 | Statement of financial position preparation. | Moderate | 35–40 |
| P5-3 | Statement of financial position adjustment and preparation. | Moderate | 40–45 |
| P5-4 | Preparation of a corrected statement of financial position. | Complex | 40–45 |
| P5-5 | Statement of financial position adjustment and preparation. | Complex | 40–50 |
| P5-6 | Preparation of a statement of cash flows and a statement of financial position. | Complex | 35–45 |
| P5-7 | Preparation of a statement of cash flows and a statement of financial position. | Complex | 40–50 |
| CA5-1 | Reporting the financial effects of varied transactions. | Moderate | 20–25 |
| CA5-2 | Current asset and liability classification. | Moderate | 25–30 |
| CA5-3 | Identifying statement of financial position deficiencies. | Moderate | 30–35 |
| CA5-4 | Critique of statement of financial position format and content. | Simple | 20–25 |
| CA5-5 | Presentation of property, plant, and equipment. | Simple | 20–25 |
| CA5-6 | Cash flow analysis. | Complex | 40–50 |

ANSWERS TO QUESTIONS

1. The statement of financial position provides information about the nature and amounts of investments in enterprise resources, obligations to enterprise creditors, and the owners' equity in net enterprise resources. That information not only complements information about the components of income, but also contributes to financial reporting by providing a basis for (1) computing rates of return, (2) evaluating the capital structure of the enterprise, and (3) assessing the liquidity and financial flexibility of the enterprise.
2. Solvency refers to the ability of an enterprise to pay its debts as they mature. For example, when a company carries a high level of long-term debt relative to assets, it has lower solvency. Information on non-current obligations, such as long-term debt and notes payable, in comparison to total assets can be used to assess resources that will be needed to meet these fixed obligations (such as interest and principal payments).
3. Financial flexibility is the ability of an enterprise to take effective actions to alter the amounts and timing of cash flows so it can respond to unexpected needs and opportunities. An enterprise with a high degree of financial flexibility is better able to survive bad times, to recover from unexpected setbacks, and to take advantage of profitable and unexpected investment opportunities. Generally, the greater the financial flexibility, the lower the risk of enterprise failure.
4. Some situations in which estimates affect amounts reported in the statement of financial position include:
 - (a) allowance for doubtful accounts.
 - (b) depreciable lives and estimated salvage values for plant and equipment.
 - (c) warranty returns.
 - (d) determining the amount of revenues that should be recorded as unearned.

When estimates are required, there is subjectivity in determining the amounts. Such subjectivity can impact the usefulness of the information by reducing the reliability of the measures, either because of bias or lack of verifiability.

5. An increase in inventories increases current assets, which is in the numerator of the current ratio. Therefore, inventory increases will increase the current ratio. In general, an increase in the current ratio indicates a company has better liquidity, since there are more current assets relative to current liabilities.

Note to instructors—When inventories increase faster than sales, this may not be a good signal about liquidity. That is, inventory can only be used to meet current obligations when it is sold (and converted to cash). That is why some analysts use a liquidity ratio—the acid test ratio—that excludes inventories from current assets in the numerator.

6. Liquidity describes the amount of time that is expected to elapse until an asset is converted into cash or until a liability has to be paid. The ranking of the assets given in order of liquidity is:
 - (1) (d) Short-term investments.
 - (2) (e) Accounts receivable.
 - (3) (b) Inventories.
 - (4) (c) Buildings.
 - (5) (a) Goodwill.
7. The major limitations of the statement of financial position are:
 - (a) The values stated are generally historical and not at fair value.
 - (b) Estimates have to be used in many instances, such as in the determination of collectibility of receivables or finding the approximate useful life of long-term tangible and intangible assets.
 - (c) Many items, even though they have financial value to the business, presently are not recorded. One example is the value of a company's human resources.

Questions Chapter 5 (Continued)

8. Some items of value to companies such as Louis Vitton or Adidas are the value of research and development (new products that are being developed but which are not yet marketable), the value of the “intellectual capital” of its workforce (the ability of the companies’ employees to come up with new ideas and products in the changing industries), and the value of the company reputation or name brand. In most cases, the reasons why the value of these items are not recorded in the statement of financial position concern the lack of reliability of the estimates of the future cash flows that will be generated by these “assets” (for all three types) and the ability to control the use of the asset (in the case of employees). Being able to reliably measure the expected future benefits and to control the use of an item are essential elements of the definition of an asset.
9. Classification in financial statements helps users by grouping items with similar characteristics and separating items with different characteristics. Current assets are expected to be converted to cash within one year or one operating cycle, whichever is longer—property, plant and equipment will provide cash inflows over a longer period of time. Thus, separating non-current assets from current assets facilitates computation of useful ratios such as the current ratio.
10. Separate amounts should be reported for accounts receivable and notes receivable. The amounts should be reported gross, and an amount for the allowance for doubtful accounts should be deducted. The amount and nature of any nontrade receivables, and any amounts designated or pledged as collateral, should be clearly identified.
11. No. Available-for-sale securities should be reported as a current asset only if management expects to convert them into cash as needed within one year or the operating cycle, whichever is longer. If available-for-sale securities are not held with this expectation, they should be reported as long-term investments.
12. The relationship between current assets and current liabilities is that current liabilities are those obligations that are reasonably expected to be liquidated either through the use of current assets or the creation of other current liabilities.
13. The total selling price of the season tickets is £20,000,000 ($10,000 \times £2,000$). Of this amount, \$8,000,000 has been earned by 12/31/10 ($8/20 \times £20,000,000$). The remaining £12,000,000 should be reported as unearned revenue, a current liability in the 12/31/10 statement of financial position ($12/20 \times £20,000,000$).
14. Working capital is the excess of total current assets over total current liabilities. This excess is sometimes called net working capital. Working capital represents the net amount of a company’s relatively liquid resources. That is, it is the liquidity buffer available to meet the financial demands of the operating cycle.
15.
 - (a) Equity. “Treasury shares (at cost).”
Note: This is a reduction of total equity.
 - (b) Current Assets. Included in “Cash.”
 - (c) Investments. “Land held as an investment.”
 - (d) Investments. “Sinking fund.”
 - (e) Current Liabilities. “Provision for warranties.”
 - (f) Intangible Assets. “Copyrights.”
 - (g) Investments. “Employees’ pension fund,” with subcaptions of “Cash” and “Securities” if desired. (Assumes that the company still owns these assets.)
 - (h) Equity. “Share capital—ordinary.”
 - (i) Investments. Nature of investments should be given together with parenthetical information as follows: “pledged to secure loans payable to banks.”
 - (j) Equity. “Minority interest.”

Questions Chapter 5 (Continued)

16. (a) Allowance for doubtful accounts receivable should be deducted from accounts receivable in current assets.
(b) Merchandise held on consignment should not appear on the consignee's statement of financial position except possibly as a note to the financial statements.
(c) Advances received on sales contract are normally a current liability and should be shown as such in the statement of financial position.
(d) Accumulated other comprehensive income should be shown as part of equity.
(e) Land should be reported in property, plant, and equipment unless held for investment.
(f) Merchandise out on consignment should be shown among current assets under the heading of inventories.
(g) Franchises should be itemized in a section for intangible assets.
(h) Accumulated depreciation of plant and equipment should be deducted from the plant and equipment accounts.
(i) Materials in transit should not be shown on the statement of financial position of the buyer, if purchased f.o.b. destination.
17. (a) Trade accounts receivable should be stated at their estimated amount collectible, often referred to as net realizable value. The method most generally followed is to deduct from the total accounts receivable the amount of the allowance for doubtful accounts.
(b) Land is generally stated in the statement of financial position at cost.
(c) Inventories are generally stated at the lower of cost or net realizable value.
(d) Trading securities (consisting of ordinary shares of other companies) are stated at fair value.
(e) Prepaid expenses should be stated at cost less the amount apportioned to the previous accounting periods.
18. Assets are defined as probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events. If a building is leased under a finance or capital lease, the future economic benefits of using the building are controlled by the lessee (tenant) as the result of a past event (the signing of a lease agreement).
19. Battle is incorrect. Retained earnings is a **source** of assets, but is not an asset itself. For example, even though the funds obtained from issuing a note payable are invested in the business, the note payable is not reported as an asset. It is a **source** of assets, but it is reported as a liability because the company has an obligation to repay the note in the future. Similarly, even though the earnings are invested in the business, retained earnings is not reported as an asset. It is reported as part of equity because it is, in effect, an investment by owners which increases the ownership interest in the assets of an entity.
20. The notes should appear as non-current liabilities with full disclosure as to their terms. Each year, as the profit is determined, notes of an amount equal to two-thirds of the year's profits should be transferred from the non-current liabilities to current liabilities until all of the notes have been liquidated.
21. The purpose of a statement of cash flows is to provide relevant information about the cash receipts and cash payments of an enterprise during a period. It differs from the statement of financial position and the income statement in that it reports the sources and uses of cash by operating, investing, and financing activity classifications. While the income statement and the statement of financial position are accrual basis statements, the statement of cash flows is a cash basis statement—noncash items are omitted.

Questions Chapter 5 (Continued)

22. The difference between these two amounts may be due to increases in current assets (e.g., an increase in accounts receivable from a sale on account would result in an increase in revenue and net income but have no effect yet on cash). Similarly a cash payment that results in a decrease in an existing current liability (e.g., accounts payable would decrease cash provided by operations without affecting net income.)
23. The difference between these two amounts could be due to noncash charges that appear in the income statement. Examples of noncash charges are depreciation, depletion, and amortization of intangibles. Expenses recorded but unpaid (e.g., increase in accounts payable) and collection of previously recorded sales on credit (i.e., now decreasing accounts receivable) also would cause cash provided by operating activities to exceed net income.
24. **Operating activities** involve the cash effects of transactions that enter into the determination of net income. **Investing activities** include making and collecting loans and acquiring and disposing of debt and equity instruments; property, plant, and equipment and intangibles. **Financing activities** involve liability and equity items and include obtaining capital from owners and providing them with a return on (dividends) and a return of their investment and borrowing money from creditors and repaying the amounts borrowed.
25. (a) Net income is adjusted downward by deducting ¥5,000 from ¥90,000 and reporting cash provided by operating activities as ¥85,000.
- (b) The issuance of the share capital is a financing activity. The issuance is reported as follows:
- | | |
|--------------------------------------|------------|
| Cash flows from financing activities | |
| Issuance of share capital | ¥1,150,000 |
- (c) Net income is adjusted as follows:
- | | |
|-----------------------------------------------------------------------------------|------------------|
| Cash flows from operating activities | |
| Net income | ¥ 90,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | |
| Depreciation expense..... | 14,000 |
| Amortization..... | 5,000 |
| Net cash provided by operating activities..... | <u>¥ 109,000</u> |
- (d) The increase of ¥20,000 reflects a noncash investing and financing activity. The increase in Land is reported in a footnote to the statement of cash flows as follows:
Noncash investing and financing activities were the purchase of land through issuance of ¥20,000 of long-term debt.
26. The company appears to have good liquidity and reasonable financial flexibility. Its current cash debt coverage ratio is $1.20 \left(\frac{€1,200,000}{€1,000,000} \right)$, which indicates that it can pay off its current liabilities in a given year from its operations. In addition, its cash debt coverage ratio is also good at $0.80 \left(\frac{€1,200,000}{€1,500,000} \right)$, which indicates that it can pay off approximately 80% of its debt out of current operations.

Questions Chapter 5 (Continued)

27. Free cash flow = \$860,000 – \$75,000 – \$30,000 = \$755,000.
28. Free cash flow is net cash provided by operating activities less capital expenditures and dividends. The purpose of free cash flow analysis is to determine the amount of discretionary cash flow a company has for purchasing additional investments, retiring its debt, purchasing treasury stock, or simply adding to its liquidity and financial flexibility.
29. A Summary of Significant Accounting Policies is usually the first note to the financial statements. It discloses all significant accounting principles and methods that involve selection from among alternatives (e.g., average cost and FIFO) or those that are peculiar to a given industry.
30. Companies use two methods to disclose pertinent information in the statement of financial position:
- (1) Parenthetical explanations and
 - (2) cross-reference and contra items.
31. Among the similarities between IFRS and U.S. GAAP related to statement of financial position presentation are as follows:
- IAS 1 specifies minimum note disclosures. These must include information about (1) accounting policies followed, (2) judgments that management has made in the process of applying the entity's accounting policies, and (3) the key assumptions and estimation uncertainty that could result in a material adjustment to the carrying amounts of assets and liabilities within the next financial year.
 - Comparative prior-period information must be presented and financial statements must be prepared annually.
 - Current/non-current classification for assets and liabilities is normally required. In general, post-financial statement events are not considered in classifying items as current or non-current.
- Differences include (1) IFRS statements may report property, plant, and equipment first in the statement of financial position. Some companies report the sub-total "net assets", which equals total assets minus total liabilities. (2) While the use of the term "reserve" is discouraged in U.S. GAAP, there is no such prohibition in IFRS.
32. The IASB and the FASB are working on a project to converge their standards related to financial statement presentation. This joint project will establish a common, high-quality standard for presentation of information in the financial statements, including the classification and display of line items. A key feature of the proposed framework for financial statement presentation is that each of the statements will be organized in the same format to separate an entity's financing activities from its operating and other activities (investing) and further separates financing activities into transactions with owners and creditors. Thus, the same classifications used in the statement of financial position would also be used in the income statement and the statement of cash flows. The project has three phases.
33. Rainmaker would present current assets first in its statement of financial position instead of last under IFRS. It would report cash instead of inventory first under current assets. Rainmaker would also present current liabilities before non-current liabilities rather than as is done with IFRS.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 5-1

Current assets

| | | |
|---------------------------------------------|--------------|------------------|
| Inventories..... | | \$290,000 |
| Accounts receivable | \$110,000 | |
| Less: Allowance for doubtful accounts | <u>8,000</u> | 102,000 |
| Prepaid insurance | | 9,500 |
| Cash..... | | <u>30,000</u> |
| Total current assets | | <u>\$431,500</u> |

BRIEF EXERCISE 5-2

Current assets

| | | |
|---------------------------------------------|--------------|-----------------|
| Inventory | | €30,000 |
| Accounts receivable | €90,000 | |
| Less: Allowance for doubtful accounts | <u>4,000</u> | 86,000 |
| Prepaid insurance | | 5,200 |
| Trading securities | | 11,000 |
| Cash | | <u>7,000</u> |
| Total current assets..... | | <u>€139,200</u> |

BRIEF EXERCISE 5-3

Long-term investments

| | |
|----------------------------------|------------------|
| Held-to-maturity securities..... | \$ 56,000 |
| Long-term note receivables | 42,000 |
| Land held for investment | <u>39,000</u> |
| Total investments | <u>\$137,000</u> |

BRIEF EXERCISE 5-4

Property, plant, and equipment

| | | |
|------------------------------------------|-----------------|------------------|
| Land..... | | \$ 71,000 |
| Buildings..... | \$207,000 | |
| Less: Accumulated depreciation..... | <u>45,000</u> | 162,000 |
| Equipment | 190,000 | |
| Less: Accumulated depreciation..... | <u>(19,000)</u> | <u>171,000</u> |
| Total property, plant, and equipment.... | | <u>\$404,000</u> |

BRIEF EXERCISE 5-5

Intangible assets

| | |
|------------------------|-----------------|
| Goodwill | £150,000 |
| Patents..... | 220,000 |
| Franchises..... | <u>130,000</u> |
| Total intangibles..... | <u>£500,000</u> |

BRIEF EXERCISE 5-6

Intangible assets

| | |
|-------------------------------------|------------------|
| Capitalized development costs | \$ 18,000 |
| Goodwill | 50,000 |
| Franchises..... | 47,000 |
| Patents..... | 33,000 |
| Trademarks | <u>10,000</u> |
| Total intangible assets | <u>\$158,000</u> |

BRIEF EXERCISE 5-7

Current liabilities

| | |
|---------------------------------|------------------|
| Notes payable | \$ 22,500 |
| Accounts payable..... | 72,000 |
| Accrued salaries | 4,000 |
| Income taxes payable | <u>7,000</u> |
| Total current liabilities | <u>\$105,500</u> |

BRIEF EXERCISE 5-8

Current liabilities

| | |
|---------------------------------|------------------|
| Accounts payable..... | \$220,000 |
| Advances from customers | 41,000 |
| Wages payable | 27,000 |
| Interest payable..... | 12,000 |
| Provision for warranties..... | 3,000 |
| Income taxes payable | <u>29,000</u> |
| Total current liabilities | <u>\$332,000</u> |

BRIEF EXERCISE 5-9

Non-current liabilities

| | |
|-------------------------------------|------------------|
| Bonds payable..... | \$371,000 |
| Pension liability..... | 375,000 |
| Provision for warranties..... | <u>6,000</u> |
| Total non-current liabilities | <u>\$752,000</u> |

BRIEF EXERCISE 5-10

Equity

| | |
|--------------------------------------------|--------------------|
| Share capital—ordinary shares..... | \$ 750,000 |
| Share premium—ordinary shares | 200,000 |
| Retained earnings..... | 120,000 |
| Accumulated other comprehensive income.... | (150,000) |
| Minority interest | <u>80,000</u> |
| Total equity | <u>\$1,000,000</u> |

BRIEF EXERCISE 5-11

Equity

| | |
|-------------------------------|------------------|
| Share capital—preference..... | \$152,000 |
| Share capital—ordinary | 70,000 |
| Share premium—ordinary | 174,000 |
| Retained earnings..... | 114,000 |
| Minority interest | <u>18,000</u> |
| Total equity..... | <u>\$528,000</u> |

BRIEF EXERCISE 5-12

Cash Flow Statement

Operating Activities

| | | |
|------------------------------------------------|--------------|---------------|
| Net income..... | | \$40,000 |
| Depreciation expense | \$ 4,000 | |
| Increase in accounts receivable..... | (10,000) | |
| Increase in accounts payable..... | <u>7,000</u> | <u>1,000</u> |
| Net cash provided by operating activities..... | | <u>41,000</u> |

BRIEF EXERCISE 5-12 (Continued)

Investing Activities

| | |
|-----------------------------|---------|
| Purchase of equipment | (8,000) |
|-----------------------------|---------|

Financing Activities

| | |
|---------------------------|----------|
| Issue notes payable | \$20,000 |
|---------------------------|----------|

| | |
|-----------------|----------------|
| Dividends | <u>(5,000)</u> |
|-----------------|----------------|

| | |
|-----------------------------------------------|---------------|
| Net cash flow from financing activities | <u>15,000</u> |
|-----------------------------------------------|---------------|

| | |
|----------------------------------------------------------|-----------------|
| Net change in cash (\$41,000 – \$8,000 + \$15,000) | <u>\$48,000</u> |
|----------------------------------------------------------|-----------------|

Free Cash Flow = \$41,000 (Net cash provided by operating activities) – \$8,000 (Purchase of equipment) – \$5,000 (Dividends) = \$28,000.

BRIEF EXERCISE 5-13

Cash flows from operating activities

| | |
|-----------------|-------------|
| Net income..... | HK\$151,000 |
|-----------------|-------------|

Adjustments to reconcile net income to net cash provided by operating activities

| | |
|----------------------------|------------|
| Depreciation expense | HK\$44,000 |
|----------------------------|------------|

| | |
|---------------------------------------|----------|
| Increase in accounts receivable | (13,000) |
|---------------------------------------|----------|

| | | |
|------------------------------------|--------------|---------------|
| Increase in accounts payable | <u>9,500</u> | <u>40,500</u> |
|------------------------------------|--------------|---------------|

| | | |
|-------------------------------------------------|--|--------------------|
| Net cash provided by operating activities | | <u>HK\$191,500</u> |
|-------------------------------------------------|--|--------------------|

BRIEF EXERCISE 5-14

| | |
|--------------------------------|-----------|
| Sale of land and building..... | \$191,000 |
|--------------------------------|-----------|

| | |
|------------------------|----------|
| Purchase of land | (37,000) |
|------------------------|----------|

| | |
|-----------------------------|-----------------|
| Purchase of equipment | <u>(53,000)</u> |
|-----------------------------|-----------------|

| | |
|------------------------------------------------|------------------|
| Net cash provided by investing activities..... | <u>\$101,000</u> |
|------------------------------------------------|------------------|

BRIEF EXERCISE 5-15

| | |
|--------------------------------------------|--------------------|
| Issuance of ordinary shares | \$147,000 |
| Purchase of treasury shares | (40,000) |
| Payment of cash dividend | (95,000) |
| Retirement of bonds | <u>(100,000)</u> |
| Net cash used by financing activities..... | <u>\$ (88,000)</u> |

BRIEF EXERCISE 5-16

Free Cash Flow Analysis

| | |
|-------------------------------------------------|------------------|
| Net cash provided by operating activities | \$400,000 |
| Less: Purchase of equipment | (53,000) |
| Purchase of land* | (37,000) |
| Dividends | <u>(95,000)</u> |
| Free cash flow | <u>\$215,000</u> |

*If the land were purchased as an investment, it would be excluded in the computation of free cash flow.

SOLUTIONS TO EXERCISES

EXERCISE 5-1 (15–20 minutes)

- (a) If the investment in preference shares is readily marketable and held primarily for sale in the near term to generate income on short-term price differences, then the account should appear as a current asset and be included with trading securities. If, on the other hand, the preference shares are not a trading security, they should be classified as available-for-sale.**
- (b) Treasury shares should be shown as a reduction of total equity.**
- (c) Equity.**
- (d) Current liability.**
- (e) Property, plant, and equipment (as a deduction).**
- (f) If the warehouse in process of construction is being constructed for another party, it is properly classified as an inventory account in the current asset section. This account will be shown net of any billings on the contract. On the other hand, if the warehouse is being constructed for the use of this particular company, it should be classified as a separate item in the property, plant, and equipment section.**
- (g) Current asset.**
- (h) Current liability.**
- (i) Retained earnings.**

EXERCISE 5-1 (Continued)

- (j) Current asset.**
- (k) Current liability.**
- (l) Current liability.**
- (m) Current asset (inventory).**
- (n) Current liability.**

EXERCISE 5-2 (15–20 minutes)

- | | |
|-------------------|--------------------|
| 1. (c) | 11. (c) |
| 2. (a) (3) | 12. (e) |
| 3. (e) | 13. (b) |
| 4. (e) | 14. (c) |
| 5 (a) (2) | 15. (a) (2) |
| 6. (b) | 16. (a) (1) |
| 7. (e) | 17. (b) |
| 8. (a) (3) | 18. (b) |
| 9. (b) | 19. (d) |
| 10. (b) | 20. (e) |

EXERCISE 5-3 (15–20 minutes)

- | | |
|--------|---------|
| 1. (e) | 10. (g) |
| 2. (a) | 11. (e) |
| 3. (g) | 12. (g) |
| 4. (e) | 13. (e) |
| 5. (g) | 14. (k) |
| 6. (h) | 15. (g) |
| 7. (i) | 16. (X) |
| 8. (c) | 17. (b) |
| 9. (e) | |

EXERCISE 5-4 (30–35 minutes)

GULISTAN INC.
Statement of Financial Position
December 31

Assets

Non-current assets**Long-term investments**

| | | |
|----------------------------------------------------|------------|-------|
| Long-term investment in preference shares | \$XXX | |
| Land held for future plant site..... | XXX | |
| Cash restricted for plant expansion..... | <u>XXX</u> | |
| Total long-term investments | | \$XXX |

Property, plant, and equipment

| | | |
|-----------------------------------------------|------------|-----|
| Buildings | XXX | |
| Less: Accum. depreciation— buildings | <u>XXX</u> | XXX |

Intangible assets

| | | |
|------------------|--|-----|
| Copyrights | | XXX |
|------------------|--|-----|

Current assets

| | | | |
|----------------------------------------------------|------------|------------|--------------|
| Inventories | | | |
| Finished goods..... | \$XXX | | |
| Work in process | XXX | | |
| Raw materials..... | <u>XXX</u> | XXX | |
| Accounts receivable | XXX | | |
| Less: Allowance for doubtful accounts..... | <u>XXX</u> | XXX | |
| Notes receivable | | XXX | |
| Receivables—officers | | XXX | |
| Cash | XXX | | |
| Less: Cash restricted for plant expansion | <u>XXX</u> | <u>XXX</u> | |
| Total current assets | | | <u>XXX</u> |
| Total assets..... | | | <u>\$XXX</u> |

EXERCISE 5-4 (Continued)

Equity and Liabilities

Equity

| | | |
|--------------------------------------|--------------|--------------|
| Share capital—ordinary | XXX | |
| Share premium—ordinary shares | XXX | |
| Retained earnings | XXX | |
| Less: Treasury shares, at cost | <u>(XXX)</u> | |
| Total shareholders' equity | | <u>XXX</u> |
| Total equity and liabilities | | <u>\$XXX</u> |

Non-current liabilities

| | | |
|---------------------------------------|------------|-------|
| Bonds payable, due in four years..... | \$XXX | |
| Long-term note payable | <u>XXX</u> | |
| Total non-current liabilities | | \$XXX |

Current liabilities

| | | |
|--------------------------------------|------------|------------|
| Notes payable, short-term..... | XXX | |
| Accrued salaries payable | XXX | |
| Unearned subscriptions revenue | XXX | |
| Unearned rent revenue..... | XXX | |
| Total current liabilities..... | <u>XXX</u> | <u>XXX</u> |
| Total liabilities | | XXX |

Note to instructor: An assumption made here is that cash included the cash restricted for plant expansion. If it did not, then a subtraction from cash would not be necessary or the cash balance would be “grossed up” and then the cash restricted for plant expansion deducted.

EXERCISE 5-5 (30–35 minutes)

BRUNO COMPANY
Statement of Financial Position
December 31, 2010

Assets

Non-current assets**Long-term investments**

Land held for future use..... \$ 175,000

Property, plant, and equipment

| | | | |
|---------------------------------------------|----------------|----------------|---------|
| Building..... | \$730,000 | | |
| Less: Accum. depr.—building..... | <u>160,000</u> | \$570,000 | |
| Office equipment | 265,000 | | |
| Less: Accum. depr.—office equipment..... | <u>105,000</u> | <u>160,000</u> | 730,000 |

Intangible assets

| | | | |
|---------------------------------|---------------|--|----------------|
| Goodwill..... | 80,000 | | |
| Other identifiable assets | <u>90,000</u> | | <u>170,000</u> |
| Total non-current assets | | | 1,075,000 |

Current assets

| | | | |
|-----------------------------------------------------------------------|---------------|----------------|--------------------|
| Inventories, at lower of average cost or net realizable value..... | | 401,000 | |
| Accounts receivable | 357,000 | | |
| Less: Allowance for doubtful accounts..... | <u>17,000</u> | 340,000 | |
| Prepaid expenses | | 12,000 | |
| Trading securities—at fair value | | 120,000 | |
| Cash | | <u>260,000</u> | |
| Total current assets | | | <u>1,133,000</u> |
| Total assets | | | <u>\$2,208,000</u> |

EXERCISE 5-5 (Continued)

Equity and Liabilities

Equity

| | | |
|-----------------------------------------------------------------------------------------------|----------------|-----------------|
| Share capital—ordinary, \$1 par, authorized 400,000 shares, issued 290,000 shares | \$290,000 | |
| Share premium—ordinary | <u>180,000</u> | \$470,000 |
| Retained earnings | | <u>794,000*</u> |
| Total equity | | \$1,264,000 |

Non-current liabilities

| | | |
|-------------------------------------|---------------|---------------|
| Bonds payable | 500,000 | |
| Add: Premium on bonds payable | <u>53,000</u> | 553,000 |
| Pension obligation | | <u>82,000</u> |
| Total non-current liabilities | | \$635,000 |

Current liabilities

| | | |
|-------------------------------------|---------------|----------------|
| Notes payable (due next year) | 125,000 | |
| Accounts payable | 135,000 | |
| Rent payable | <u>49,000</u> | |
| Total current liabilities | | 309,000 |
| Total liabilities | | <u>944,000</u> |

| | | |
|------------------------------------|--|--------------------|
| Total equity and liabilities | | <u>\$2,208,000</u> |
|------------------------------------|--|--------------------|

***\$2,208,000 – \$944,000 – \$470,000**

EXERCISE 5-6 (30–35 minutes)

GARFIELD COMPANY
Statement of Financial Position
July 31, 2010

Assets

Non-current asset

Long-term investments

Bond sinking fund \$ 12,000

Property, plant, and equipment

Equipment \$112,000

Less: Accumulated depreciation—
equipment 28,000 84,000

Intangible assets

Patents 21,000

Total non-current assets \$117,000

Current assets

Inventories 65,300*

Accounts receivable 46,700**

Less: Allowance for doubtful
accounts 3,500 43,200

Cash 66,000***

Total current assets 174,500

Total assets \$291,500

*($\$60,000 + \$5,300$)

**($\$52,000 - \$5,300$)

***($\$69,000 - \$12,000 + \$9,000$)

EXERCISE 5-6 (Continued)

| <u>Equity and Liabilities</u> | |
|--------------------------------------|------------------|
| <u>Equity</u> | \$155,500 |
| <u>Non-current liabilities</u> | \$75,000 |
| <u>Current liabilities</u> | |
| Notes and accounts payable | \$52,000**** |
| Taxes payable..... | <u>9,000</u> |
| Total current liabilities..... | 61,000 |
| Total liabilities | <u>136,000</u> |
| Total equity and liabilities | <u>\$291,500</u> |
| ****(\$44,000 + \$8,000) | |

EXERCISE 5-7 (15–20 minutes)

Current assets

Inventories at lower-of-cost (determined using FIFO) or net-realizable-value

| | | |
|-----------------------------------------------------------------------------------------|-----------------|-----------------|
| Finished goods..... | € 52,000 | |
| Work-in-process..... | 34,000 | |
| Raw materials | <u>187,000</u> | €273,000 |
| Accounts receivable (of which €50,000 is pledged as collateral on a bank loan) | 161,000 | |
| Less: Allowance for doubtful accounts | <u>12,000</u> | 149,000 |
| Interest receivable [(€40,000 X 6%) X 8/12] | | 1,600 |
| Trading securities at fair value (cost, €31,000) | | 29,000 |
| Cash | 92,000* | |
| Less: Cash restricted for plant expansion..... | <u>(50,000)</u> | <u>42,000</u> |
| Total current assets..... | | <u>€494,600</u> |

***An acceptable alternative is to report cash at €42,000 and simply report the cash restricted for plant expansion in the investments section.**

EXERCISE 5-8 (10–15 minutes)

- 1. Dividends payable of \$1,900,000 will be reported as a current liability [(1,000,000 – 50,000) X \$2.00].**
- 2. Bonds payable of \$25,000,000 and interest payable of \$2,000,000 (\$100,000,000 X 8% X 3/12) will be reported as a current liability. Bonds payable of \$75,000,000 will be reported as a non-current liability.**
- 3. Customer advances of \$17,000,000 will be reported as a current liability (\$12,000,000 + \$30,000,000 – \$25,000,000).**

EXERCISE 5-9 (30–35 minutes)

(a) AGINCOURT COMPANY
Statement of Financial Position (Partial)
December 31, 2010

| | | | |
|------------------------------------------------|--------------|------------------|------------------|
| <u>Current assets</u> | | | |
| Inventories | | \$161,000* | |
| Accounts receivable | \$91,300** | | |
| Less: Allowance for doubtful | | | |
| accounts..... | <u>7,000</u> | 84,300 | |
| Prepaid expenses | | 9,000 | |
| Cash | | <u>30,476***</u> | |
| Total current assets | | | <u>\$284,776</u> |
| | | | |
| *Inventories | | \$171,000 | |
| Less: Inventory received on consignment | | <u>10,000</u> | |
| Adjusted inventory..... | | | <u>\$161,000</u> |
| | | | |
| **Accounts receivable balance | | \$ 89,000 | |
| Add: Accounts reduced from January | | | |
| collection (\$23,324 ÷ 98%)..... | | <u>23,800</u> | |
| | | 112,800 | |
| Deduct: Accounts receivable in January | | <u>21,500</u> | |
| Adjusted accounts receivable..... | | | <u>\$ 91,300</u> |
| | | | |
| ***Cash balance | | \$ 40,000 | |
| Add: Cash disbursement after discount | | | |
| [\$35,000 X 98%)] | | <u>34,300</u> | |
| | | 74,300 | |
| Less: Cash sales in January | | | |
| (\$30,000 – \$21,500) | | 8,500 | |
| Cash collected on account | | 23,324 | |
| Bank loan proceeds (\$35,324 – \$23,324) | | <u>12,000</u> | |
| Adjusted cash | | | <u>\$ 30,476</u> |

EXERCISE 5-9 (Continued)

Current liabilities

| | |
|---------------------------------|----------------------------|
| Notes payable | \$ 55,000 ^a |
| Accounts payable | <u>113,000^b</u> |
| Total current liabilities | <u>\$168,000</u> |

| | |
|------------------------------------|------------------|
| ^a Notes payable balance | \$ 67,000 |
| Less: Proceeds of bank loan | <u>12,000</u> |
| Adjusted notes payable | <u>\$ 55,000</u> |

| | | |
|---------------------------------------|---------------|------------------|
| ^b Accounts payable balance | | \$ 61,000 |
| Add: Cash disbursements | \$35,000 | |
| Purchase invoice omitted | | |
| (\$27,000 – \$10,000) | <u>17,000</u> | <u>52,000</u> |
| Adjusted accounts payable | | <u>\$113,000</u> |

(b) Adjustment to retained earnings balance:

Add: January sales discounts

[($\$23,324 \div 98\%$) X .02] \$ 476

Deduct: January sales \$30,000

January purchase discounts

(\$35,000 X 2%) 700

December purchases 17,000

Consignment inventory 10,000 (57,700)

Change (decrease) to retained earnings \$ (57,224)

EXERCISE 5-10 (15–20 minutes)

- (a) A current liability of \$150,000 should be recorded.**
- (b) A current liability for accrued interest of \$6,000 ($\$900,000 \times 8\% \times 1/12$) should be reported. Also, the \$900,000 note payable should be a current liability if payable in one year. Otherwise, the \$900,000 note payable would be a non-current liability.**
- (c) Although bad debts expense of \$200,000 should be debited and the allowance for doubtful accounts credited for \$200,000, this does not result in a liability. The allowance for doubtful accounts is a valuation account (contra asset) and is deducted from accounts receivable on the statement of financial position.**
- (d) A current liability of \$80,000 should be reported. The liability is recorded on the date of declaration.**
- (e) Customer advances of \$110,000 ($\$160,000 - \$50,000$) will be reported as a current liability.**

EXERCISE 5-11 (25–30 minutes)

ABBEY CORPORATION
Statement of Financial Position
December 31, 2010

| Assets | | | |
|----------------------------------------------|---------------|---------------|----------------|
| <u>Property, plant, and equipment</u> | | | |
| Equipment | £48,000 | | |
| Less: Accumulated depreciation..... | <u>9,000</u> | | |
| Total property, plant, and equipment | | | £39,000 |
| <u>Intangible assets</u> | | | |
| Trademark | | | 950 |
| <u>Current assets</u> | | | |
| Office supplies | 1,200 | | |
| Prepaid insurance | 1,000 | | |
| Cash..... | <u>6,850*</u> | | |
| Total current assets | | | <u>9,050</u> |
| Total assets | | | <u>£49,000</u> |
| <u>Equity and Liabilities</u> | | | |
| <u>Equity</u> | | | |
| Share capital—ordinary | £10,000 | | |
| Retained earnings (£20,000 – £2,500)..... | <u>17,500</u> | | |
| Total shareholders' equity | | | <u>£27,500</u> |
| <u>Non-current liabilities</u> | | | |
| Bonds payable | £ 9,000 | | |
| <u>Current liabilities</u> | | | |
| Accounts payable | £10,000 | | |
| Wages payable | 500 | | |
| Unearned service revenue | <u>2,000</u> | | |
| Total current liabilities | | <u>12,500</u> | |
| Total liabilities | | 21,500 | |
| Total equity and liabilities | | | <u>£49,000</u> |

*[£49,000 – £39,000 – £950 – £1,200 – £1,000]

**[£10,000 – (£9,000 + £1,400 + £1,200 + £900)]

EXERCISE 5-12 (30–35 minutes)

VIVALDI CORPORATION
Statement of Financial Position
December 31, 2010

Assets

Non-current assets**Long-term investments**

| | | |
|------------------------------------|----------------|------------|
| Investments in bonds..... | \$299,000 | |
| Investments in capital shares..... | <u>277,000</u> | |
| Total long-term investments..... | | \$ 576,000 |

Property, plant, and equipment

| | | |
|-------------------------------------------|----------------|----------------|
| Land | 260,000 | |
| Buildings | \$1,040,000 | |
| Less: Accum. depreciation | <u>352,000</u> | 688,000 |
| Equipment..... | 600,000 | |
| Less: Accum. depreciation | <u>60,000</u> | <u>540,000</u> |
| Total property, plant, and equipment..... | | 1,488,000 |

Intangible assets

| | | |
|--------------------------------|----------------|----------------|
| Franchise..... | 160,000 | |
| Patent..... | <u>195,000</u> | |
| Total intangible assets..... | | <u>355,000</u> |
| Total non-current assets | | 2,419,000 |

Current assets

| | | |
|--------------------------------------------|----------------|--------------------|
| Inventories | 597,000 | |
| Accounts receivable | 435,000 | |
| Less: Allowance for doubtful accounts..... | <u>25,000</u> | 410,000 |
| Trading securities..... | 153,000 | |
| Cash | <u>197,000</u> | |
| Total current assets..... | | <u>1,357,000</u> |
| Total assets | | <u>\$3,776,000</u> |

EXERCISE 5-12 (Continued)

Equity and Liabilities

Equity

| | | |
|------------------------------------------------|----------------|-------------|
| Share capital—ordinary (\$5 par) | \$1,000,000 | |
| Retained earnings* | 130,000 | |
| Accumulated other comprehensive income..... | 80,000 | |
| Less: Treasury shares..... | <u>191,000</u> | |
| Total equity | | \$1,019,000 |

Non-current liabilities

| | | |
|-------------------------------------|---------------|-----------|
| Bonds payable | \$1,000,000 | |
| Long-term notes payable..... | 900,000 | |
| Provision for pensions | <u>80,000</u> | |
| Total non-current liabilities | | 1,980,000 |

Current liabilities

| | | |
|---------------------------------|---------------|---------|
| Short-term notes payable..... | \$ 90,000 | |
| Accounts payable | 455,000 | |
| Dividends payable | 136,000 | |
| Accrued liabilities | <u>96,000</u> | |
| Total current liabilities | | 777,000 |

| | | |
|------------------------------------|--|--------------------|
| Total liabilities | | <u>2,757,000</u> |
| Total equity and liabilities | | <u>\$3,776,000</u> |

EXERCISE 5-12 (Continued)

*Computation of Retained Earnings:

| | |
|----------------------------------|-------------------|
| Sales..... | \$7,900,000 |
| Investment revenue..... | 63,000 |
| Cost of goods sold | (4,800,000) |
| Selling expenses..... | (2,000,000) |
| Administrative expenses..... | (900,000) |
| Interest expense..... | <u>(211,000)</u> |
| Net income | <u>\$ 52,000</u> |
| | |
| Beginning retained earnings..... | \$ 78,000 |
| Net income | <u>52,000</u> |
| Ending retained earnings..... | <u>\$ 130,000</u> |

Or ending retained earnings can be computed as follows:

| | |
|--------------------------------------------------------------------|-------------------|
| Total equity (\$3,776,000 – \$2,757,000) | \$1,019,000 |
| Add: Treasury shares | 191,000 |
| Less: Share capital and Accum. other comprehensive income | <u>1,080,000</u> |
| Ending retained earnings..... | <u>\$ 130,000</u> |

Note to instructor: There is no dividends account. Thus, the 12/31/10 retained earnings balance already reflects any dividends declared.

EXERCISE 5-13 (15–20 minutes)

| | | |
|--------|--------|--------|
| (a) 4. | (f) 1. | (k) 1. |
| (b) 3. | (g) 5. | (l) 2. |
| (c) 4. | (h) 4. | (m) 2. |
| (d) 3. | (i) 5. | |
| (e) 1. | (j) 4. | |

EXERCISE 5-14 (25–35 minutes)

CONNECTICUT INC.
Statement of Cash Flows
For the Year Ended December 31, 2010

Cash flows from operating activities

| | | |
|-----------------|--|----------|
| Net income..... | | \$34,000 |
|-----------------|--|----------|

**Adjustments to reconcile net income
to net cash provided by operating
activities:**

| | | |
|----------------------------|----------|--|
| Depreciation expense | \$ 6,000 | |
|----------------------------|----------|--|

| | | |
|--------------------------------------|---------|--|
| Increase in accounts receivable..... | (3,000) | |
|--------------------------------------|---------|--|

| | | |
|------------------------------------|--------------|--------------|
| Increase in accounts payable | <u>5,000</u> | <u>8,000</u> |
|------------------------------------|--------------|--------------|

| | | |
|-------------------------------------------------|--|--------|
| Net cash provided by operating activities | | 42,000 |
|-------------------------------------------------|--|--------|

Cash flows from investing activities

| | | |
|-----------------------------|--|----------|
| Purchase of equipment | | (17,000) |
|-----------------------------|--|----------|

Cash flows from financing activities

| | | |
|-------------------------------|--------|--|
| Issuance of common stock..... | 20,000 | |
|-------------------------------|--------|--|

| | | |
|---------------------------------|-----------------|--|
| Payment of cash dividends | <u>(13,000)</u> | |
|---------------------------------|-----------------|--|

| | | |
|------------------------------------------------|--|--------------|
| Net cash provided by financing activities..... | | <u>7,000</u> |
|------------------------------------------------|--|--------------|

| | | |
|---------------------------|--|--------|
| Net increase in cash..... | | 32,000 |
|---------------------------|--|--------|

| | | |
|---------------------------------|--|---------------|
| Cash at beginning of year | | <u>13,000</u> |
|---------------------------------|--|---------------|

| | | |
|--------------------------|--|-----------------|
| Cash at end of year..... | | <u>\$45,000</u> |
|--------------------------|--|-----------------|

EXERCISE 5-15 (25–35 minutes)

(a) **YOON CORPORATION**
Statement of Cash Flows
For the Year Ended December 31, 2010

Cash flows from operating activities

| | |
|------------------|----------------------|
| Net income | ₩ 160,000 |
|------------------|----------------------|

**Adjustments to reconcile net income
to net cash provided by operating
activities:**

| | | |
|---------------------------------------|---------------------|---------------|
| Depreciation expense..... | ₩ 17,000 | |
| Loss on sale of investments..... | 7,000 | |
| Decrease in accounts receivable | 5,000 | |
| Decrease in current liabilities..... | (17,000) | <u>12,000</u> |

| | |
|------------------------------------------------|---------|
| Net cash provided by operating activities..... | 172,000 |
|------------------------------------------------|---------|

Cash flows from investing activities**Sale of investments**

| | |
|--------------------------------------------------------------------------|--------|
| [(₩ 74,000 – ₩ 52,000) – ₩ 7,000]..... | 15,000 |
|--------------------------------------------------------------------------|--------|

| | |
|-----------------------------|-----------------|
| Purchase of equipment | <u>(58,000)</u> |
|-----------------------------|-----------------|

| | |
|---------------------------------------------|----------|
| Net cash used by investing activities | (43,000) |
|---------------------------------------------|----------|

Cash flows from financing activities

| | |
|--------------------------------|-----------------|
| Payment of cash dividends..... | <u>(50,000)</u> |
|--------------------------------|-----------------|

| | |
|----------------------------|--------|
| Net increase in cash | 79,000 |
|----------------------------|--------|

| | |
|--------------------------------|---------------|
| Cash at beginning of year..... | <u>78,000</u> |
|--------------------------------|---------------|

| | |
|---------------------------|-----------------------------------|
| Cash at end of year | <u><u>₩157,000</u></u> |
|---------------------------|-----------------------------------|

(b) **Free Cash Flow Analysis**

| | |
|-------------------------------------------------|----------------------|
| Net cash provided by operating activities | ₩ 172,000 |
|-------------------------------------------------|----------------------|

| | |
|-----------------------------------|----------|
| Less: Purchase of equipment | (58,000) |
|-----------------------------------|----------|

| | |
|----------------|-----------------|
| Dividends..... | <u>(50,000)</u> |
|----------------|-----------------|

| | |
|----------------------|-----------------------------------|
| Free cash flow | <u><u>₩ 64,000</u></u> |
|----------------------|-----------------------------------|

EXERCISE 5-16 (25–35 minutes)**(a)**

OROZCO CORPORATION
Statement of Cash Flows
For the Year Ended December 31, 2010

Cash flows from operating activities

| | | |
|-----------------------------------------------------------------------------------|------------------------|---------------------|
| Net income..... | | \$105,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Depreciation expense | \$27,000 | |
| Decrease in inventory | 9,000 | |
| Increase in accounts receivable..... | (16,000) | |
| Decrease in accounts payable..... | <u>(13,000)</u> | <u>7,000</u> |
| Net cash provided by operating activities | | \$112,000 |

Cash flows from investing activities

| | | |
|--------------------------------------------|------------------------|-----------------|
| Sale of land..... | 39,000 | |
| Purchase of equipment | <u>(70,000)</u> | |
| Net cash used by investing activities..... | | (31,000) |

Cash flows from financing activities

| | | |
|---------------------------------|--|------------------------|
| Payment of cash dividends | | <u>(40,000)</u> |
|---------------------------------|--|------------------------|

| | | |
|---------------------------------|--|-------------------------|
| Net increase in cash..... | | 41,000 |
| Cash at beginning of year | | <u>22,000</u> |
| Cash at end of year..... | | <u>\$ 63,000</u> |

Noncash investing and financing activities were issue of ordinary shares to retire \$50,000 of bonds outstanding.

EXERCISE 5-16 (Continued)

(b) Current cash debt coverage ratio =

$$\begin{aligned} &= \frac{\text{Net cash provided by operating activities}}{\text{Average current liabilities}} \\ &= \frac{\$112,000}{(\$34,000 + \$47,000)/2} \\ &= 2.77 \text{ to } 1 \end{aligned}$$

Cash debt coverage ratio =

$$\begin{aligned} &= \frac{\text{Net cash provided by operating activities}}{\text{Average total liabilities}} \\ &= \$112,000 \div \frac{\$184,000 + \$247,000}{2} \\ &= 0.52 \text{ to } 1 \end{aligned}$$

Free Cash Flow Analysis

| | |
|-------------------------------------------------|-----------------|
| Net cash provided by operating activities | \$112,000 |
| Less: Purchase of equipment | (70,000) |
| Dividends | <u>(40,000)</u> |
| Free cash flow | <u>\$ 2,000</u> |

Orozco has acceptable liquidity. Its financial flexibility is good. It might be noted that it substantially reduced its long-term debt in 2010 which will help its financial flexibility.

EXERCISE 5-17 (30–35 minutes)

(a) **CHEKOV CORPORATION**
Statement of Cash Flows
For the Year Ended December 31, 2010

| | | |
|-----------------------------------------------------------------------------------------|-----------------|------------------------------------|
| Cash flows from operating activities | | |
| Net income..... | | \$55,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Depreciation expense | \$13,000 | |
| Patent amortization..... | 2,500 | |
| Loss on sale of equipment..... | 3,000* | |
| Increase in current liabilities | 13,000 | |
| Increase in current assets (other than cash)..... | (25,000) | 6,500 |
| Net cash provided by operating activities | | 61,500 |
| Cash flows from investing activities | | |
| Sale of equipment | 9,000 | |
| Addition to building..... | (27,000) | |
| Investment in debt securities..... | (16,000) | |
| Net cash used by investing activities..... | | (34,000) |
| Cash flows from financing activities | | |
| Issuance of bonds | 50,000 | |
| Payment of dividends | (25,000) | |
| Purchase of treasury shares | (11,000) | |
| Net cash provided by financing activities..... | | 14,000 |
| Net increase in cash..... | | <u>\$41,500^a</u> |

*[$\$9,000 - (\$20,000 - \$8,000)$]

^aAn additional proof to arrive at the increase in cash is provided as follows:

| | |
|----------------------------------------------|----------------------------------|
| Total current assets—end of period | \$301,500 [from part (b)] |
| Total current assets—beginning of period | <u>(235,000)</u> |
| Increase in current assets during the period | 66,500 |
| Increase in current assets other than cash | <u>(25,000)</u> |
| Increase in cash during year | <u>\$ 41,500</u> |

EXERCISE 5-17 (Continued)

(b) **CHEKOV CORPORATION**
Statement of Financial Position
December 31, 2010

| <u>Assets</u> | | |
|--------------------------------------------|----------------------|-----------------------------------|
| <u>Non-currents assets</u> | | |
| Long-term investments..... | | \$ 16,000 |
| Property, plant, and equipment | | |
| Land | \$ 30,000 | |
| Building (\$120,000 + \$27,000)..... | \$147,000 | |
| Less: Accum. depreciation | | |
| (\$30,000 + \$4,000)..... | <u>34,000</u> | 113,000 |
| Equipment (\$90,000 – \$20,000) | 70,000 | |
| Less: Accum. depreciation | | |
| (\$11,000 – \$8,000 + \$9,000)..... | <u>12,000</u> | <u>58,000</u> |
| Total property, plant, and equipment | | 201,000 |
| Intangible assets | | |
| Patents (\$40,000 – \$2,500) | | 37,500 |
| Total non-current assets | | 254,500 |
| Current assets | | <u>301,500^b</u> |
| Total assets | | <u>\$556,000</u> |

EXERCISE 5-17 (Continued)

Equity and Liabilities

Equity

| | | |
|----------------------------------------------------------|---------------|-----------|
| Share capital—ordinary | \$180,000 | |
| Retained earnings (\$44,000 + \$55,000 – \$25,000) | 74,000 | |
| Less: Treasury shares..... | <u>11,000</u> | |
| Total shareholders' equity | | \$243,000 |

Non-current liabilities

| | | |
|--------------------------------------------------|----------------|------------------|
| Bonds payable (\$100,000 + \$50,000)..... | \$150,000 | |
| Current liabilities (\$150,000 + \$13,000) | <u>163,000</u> | |
| Total liabilities | | <u>313,000</u> |
| Total equity and liabilities | | <u>\$556,000</u> |

Au: Is it correct. Pls confirm

^b The amount determined for current assets could be computed last and then is a “plug” figure. That is, total liabilities and equity is computed because information is available to determine this amount. Because the total assets amount is the same as total liabilities and equity amount, the amount of total assets is determined. Information is available to compute all the asset amounts except current assets and therefore current assets can be determined by deducting the total of all the other asset balances from the total asset balance (i.e., \$556,000 – \$37,500 – \$201,000 – \$16,000). Another way to compute this amount, given the information, is that beginning current assets plus the \$25,000 increase in current assets other than cash plus the \$41,500 increase in cash equals \$301,500.

EXERCISE 5-18 (25–35 minutes)

(a) MENACHEM CORPORATION
Statement of Cash Flows
For the Year Ended December 31, 2010

| | |
|-------------------------------------------------------------------------------------|-----------------|
| Cash flows from operating activities | |
| Net income | €34,000 |
| Adjustment to reconcile net income to net cash provided by operating activities: | |
| Depreciation | € 6,000 |
| Increase in accounts payable | 5,000 |
| Increase in accounts receivable | <u>(18,000)</u> |
| Net cash provided by operating activities | 27,000 |
| Cash flows from Investing activities | |
| Purchase of equipment | (15,000) |
| Cash flows from financing activities | |
| Issuance of shares | 20,000 |
| Payment of dividends | <u>(23,000)</u> |
| Net cash used by financing activities | <u>(3,000)</u> |
| Net increase in cash | 9,000 |
| Cash at beginning of year | <u>13,000</u> |
| Cash at end of year | <u>€22,000</u> |

| | | |
|-------------------|-----------------------------------|------------------------------------|
| | <u>2010</u> | <u>2009</u> |
| (b) Current ratio | $\frac{€128,000}{€ 20,000} = 6.4$ | $\frac{€101,000}{€ 15,000} = 6.73$ |

Free Cash Flow Analysis

| | |
|-------------------------------------------------|------------------|
| Net cash provided by operating activities | € 27,000 |
| Less: Purchase of equipment | (15,000) |
| Pay dividends | <u>(23,000)</u> |
| Free cash flow | <u>€(11,000)</u> |

(c) Although, Menachem's current ratio has declined from 2009 to 2010, it is still in excess of 6. It appears the company has good liquidity. Financial flexibility is poor due to negative free cash flow.

TIME AND PURPOSE OF PROBLEMS

Problem 5-1 (Time 30–35 minutes)

Purpose—to provide the student with the opportunity to prepare a statement of financial position, given a set of accounts. No monetary amounts are to be reported.

Problem 5-2 (Time 35–40 minutes)

Purpose—to provide the student with the opportunity to prepare a complete statement of financial position, involving dollar amounts. A unique feature of this problem is that the student must solve for the retained earnings balance.

Problem 5-3 (Time 40–45 minutes)

Purpose—to provide an opportunity for the student to prepare a statement of financial position in good form. Emphasis is given in this problem to additional important information that should be disclosed. For example, an inventory valuation method, bank loans secured by long-term investments, and information related to the capital stock accounts must be disclosed.

Problem 5-4 (Time 40–45 minutes)

Purpose—to provide the student with the opportunity to analyze a statement of financial position and correct it where appropriate. The statement of financial position as reported is incomplete, uses poor terminology, and is in error. A challenging problem.

Problem 5-5 (Time 40–50 minutes)

Purpose—to provide the student with the opportunity to prepare a statement of financial position in good form. Additional information is provided on each asset and liability category for purposes of preparing the statement of financial position. A challenging problem.

Problem 5-6 (Time 35–45 minutes)

Purpose—to provide the student with an opportunity to prepare a complete statement of cash flows. A condensed statement of financial position is also required. The student is also required to explain the usefulness of the statement of cash flows. Because the textbook does not explain in Chapter 5 all of the steps involved in preparing the statement of cash flows, assignment of this problem is dependent upon additional instruction by the teacher or knowledge gained in elementary financial accounting.

Problem 5-7 (Time 40–50 minutes)

Purpose—to provide the student with an opportunity to prepare a statement of financial position in good form and a more complex cash flow statement.

SOLUTIONS TO PROBLEMS

PROBLEM 5-1

COMPANY NAME Statement of Financial Position December 31, 20XX

| <u>Assets</u> | | | |
|-----------------------------------------------|-------|-------|--------------|
| <u>Non-current assets</u> | | | |
| <u>Long-term investments</u> | | | |
| Bond sinking fund | | | \$XXX |
| Land for future plant site..... | | | XXX |
| <u>Property, plant, and equipment</u> | | | |
| Land | | \$XXX | |
| Buildings | \$XXX | | |
| Less: Accum. depreciation—buildings..... | XXX | XXX | |
| Equipment..... | XXX | | |
| Less: Accum. depreciation—equipment | XXX | XXX | |
| Total property, plant, and equipment..... | | | XXX |
| <u>Intangible assets</u> | | | |
| Copyright..... | | XXX | |
| Patent..... | | XXX | |
| Total intangible assets | | | XXX |
| <u>Current assets</u> | | | |
| Inventory (ending) | | XXX | |
| Accounts receivable | XXX | | |
| Less: Allowance for doubtful accounts..... | XXX | XXX | |
| Interest receivable | | XXX | |
| Advances to employees | | XXX | |
| Prepaid rent | | XXX | |
| Trading securities | | XXX | |
| Cash on hand (including petty cash) | XXX | | |
| Cash in bank..... | XXX | XXX | |
| Total current assets | | | XXX |
| Total assets | | | <u>\$XXX</u> |

PROBLEM 5-1 (Continued)

Equity and Liabilities

Equity

Share capital

| | | |
|--------------------------------------|------------|------------|
| Preference shares (description)..... | \$XXX | |
| Ordinary shares (description)..... | XXX | |
| Share premium—ordinary | XXX | |
| Retained earnings | XXX | |
| Less: Treasury shares..... | <u>XXX</u> | |
| Total shareholders' equity | | \$XXX |
| Minority interest..... | | <u>XXX</u> |

Non-current liabilities

| | | |
|--------------------------------------|------------|-----|
| Bonds payable | \$XXX | |
| Provision for pension benefits | <u>XXX</u> | |
| Total non-current liabilities | | XXX |

Current liabilities

| | | |
|--------------------------------------|------------|--------------|
| Notes payable..... | XXX | |
| Payroll taxes payable..... | XXX | |
| Accrued wages | XXX | |
| Dividends payable | XXX | |
| Unearned subscriptions revenue | <u>XXX</u> | |
| Total current liabilities..... | | XXX |
| Total liabilities | | <u>XXX</u> |
| Total equity and liabilities | | <u>\$XXX</u> |

| |
|--------------------|
| PROBLEM 5-2 |
|--------------------|

MONTOYA, INC.
Statement of Financial Position
December 31, 2010

Assets

Non-current assets

Property, plant, and equipment

| | | | |
|----------------------------|----------------|------------------|-----------|
| Land | | € 480,000 | |
| Building..... | €1,640,000 | | |
| Less: Accum. depreciation— | | | |
| building..... | <u>270,200</u> | 1,369,800 | |
| Equipment..... | 1,470,000 | | |
| Less: Accum. depreciation— | | | |
| equipment | <u>292,000</u> | <u>1,178,000</u> | 3,027,800 |

Intangible assets

| | | | |
|---------------|--|--|---------|
| Goodwill..... | | | 125,000 |
|---------------|--|--|---------|

Current assets

| | | | |
|------------------------------|----------------|-------------------|--|
| Inventories | 239,800 | | |
| Notes receivable | 445,700 | | |
| Income taxes receivable..... | 97,630 | | |
| Prepaid expenses | 87,920 | | |
| Trading securities..... | 121,000 | | |
| Cash | <u>360,000</u> | | |
| Total current assets | | <u>1,352,050</u> | |
| Total assets | | <u>€4,504,850</u> | |

PROBLEM 5-2 (Continued)

Equity and Liabilities

Equity

Share capital

Share capital—Preference

€10 par; 20,000 shares

authorized, 15,000

shares issued € 150,000

Share capital—ordinary, €1 par;

400,000 shares authorized,

200,000 issued..... 200,000 €350,000

Retained earnings

(€1,063,897 – €350,000)..... 713,897

Total shareholders' equity

(€4,504,850 – €3,440,953) €1,063,897

Non-current liabilities

Unsecured notes payable

(long-term) 1,600,000

Bonds payable 285,000

Long-term rental obligations..... 480,000

Total non-current liabilities..... 2,365,000

Current liabilities

Notes payable to banks..... 265,000

Accounts payable 490,000

Payroll taxes payable..... 177,591

Taxes payable..... 98,362

Rent payable 45,000

Total current liabilities..... 1,075,953

Total liabilities €3,440,953

Total equity and liabilities €4,504,850

Au: Is it correct. Pls confirm

| |
|--------------------|
| PROBLEM 5-3 |
|--------------------|

EASTWOOD COMPANY
Statement of Financial Position
December 31, 2010

Assets

Non-current assets

Long-term investments

| | |
|------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Investments in capital shares and, bonds (\$120,000 have been pledged as security for notes payable)— at fair value | \$339,000 |
|------------------------------------------------------------------------------------------------------------------------------------|------------------|

Property, plant, and equipment

| | | | |
|----------------------------------------------|----------------|----------------|---------|
| Cost of uncompleted plant facilities | | | |
| Land | \$85,000 | | |
| Building in process of construction | <u>124,000</u> | \$209,000 | |
| Equipment | 400,000 | | |
| Less: Accum. depreciation | <u>240,000</u> | <u>160,000</u> | 369,000 |

Intangible assets

| | |
|-------------------------------------------|---------------|
| Patents (at cost less amortization) | 36,000 |
|-------------------------------------------|---------------|

Current assets

| | | |
|------------------------------------------------|--------------|---------------------------|
| Inventory (Average cost) | 208,500 | |
| Accounts receivable | 163,500 | |
| Less: Allowance for doubtful accounts | <u>8,700</u> | 154,800 |
| Prepaid insurance | | 5,900 |
| Cash | | <u>41,000</u> |
| Total current assets | | <u>410,200</u> |
| Total assets | | <u>\$1,154,200</u> |

PROBLEM 5-3 (Continued)

Equity and Liabilities

Equity

| | | |
|-----------------------------------|----------------|---------|
| Share capital—ordinary | | |
| Authorized 600,000 shares of \$1 | | |
| par value; issued and | | |
| outstanding, 500,000 shares | \$500,000 | |
| Share premium—ordinary | 45,000 | |
| Retained earnings | <u>138,000</u> | |
| Total shareholders' equity | | 683,000 |

Non-current liabilities

| | |
|-----------------------|---------|
| 8% bonds payable, due | |
| January 1, 2021 | 180,000 |

Current liabilities

| | | |
|------------------------------------|----------------|--------------------|
| Notes payable, secured by | | |
| investments of \$120,000 | \$ 94,000 | |
| Accounts payable | 148,000 | |
| Accrued expenses | <u>49,200</u> | |
| Total current liabilities | <u>291,200</u> | |
| Total liabilities | | <u>471,200</u> |
| Total equity and liabilities | | <u>\$1,154,200</u> |

Ans: Is it correct. Pls confirm

PROBLEM 5-4

KISHWAUKEE CORPORATION
Statement of Financial Position
December 31, 2010

Assets

Non-current assets

Long-term investments

Assets allocated to trustee for
expansion:

| | | | |
|-------------------------------------|---|----------------|-----------|
| Cash in bank..... | £ | 70,000 | |
| Treasury notes, at fair value | | <u>138,000</u> | £ 208,000 |

Property, plant, and equipment

| | | | |
|----------------------------------------------|----------------|------------------|-----------|
| Land | | 950,000 | |
| Buildings | £1,640,000 | | |
| Less: Accum. depreciation— buildings..... | <u>410,000</u> | <u>1,230,000</u> | |
| Total property, plant, and equipment..... | | | 2,180,000 |

Current assets

| | | | |
|----------------------------|----------------|--|-------------------|
| Inventories | 312,100 | | |
| Accounts receivable | 170,000 | | |
| Cash | <u>175,900</u> | | |
| Total current assets | | | <u>658,000</u> |
| Total assets | | | <u>£3,046,000</u> |

PROBLEM 5-4 (Continued)

Equity and Liabilities

Equity

| | | |
|--------------------------------------------------------------------------------------------------------------|----------------------|------------|
| Share capital—ordinary, no par; 1,000,000 shares authorized and issued; 950,000 shares outstanding.... | £1,150,000 | |
| Retained earnings | 738,000 ^b | |
| Less: Treasury shares, at cost (50,000 shares) | <u>87,000</u> | |
| Total shareholders' equity | | £1,801,000 |
| Minority interest..... | | 570,000 |

Non-current liabilities

| | |
|--------------------|----------------------|
| Notes payable..... | 500,000 ^a |
|--------------------|----------------------|

Current liabilities

| | | |
|----------------------------------------|----------------|-------------------|
| Notes payable—current installment..... | £100,000 | |
| Federal income taxes payable | <u>75,000</u> | |
| Total current liabilities..... | <u>175,000</u> | |
| Total liabilities | | <u>675,000</u> |
| Total equity and liabilities | | <u>£3,046,000</u> |

Au: Is it correct. Pls confirm

^a£600,000 – £100,000 (to reclassify the currently maturing portion of the notes payable as a current liability.)

^b£858,000 – £120,000 (to remove the value of goodwill from retained earnings. Note 2 indicates that retained earnings was credited. Note that the goodwill account is also deleted.)

Note: As an alternate presentation, the cash restricted for plant expansion would be added to the general cash account and then subtracted. The amount reported in the investments section would not change.

| |
|--------------------|
| PROBLEM 5-5 |
|--------------------|

SARGENT CORPORATION
Statement of Financial Position
December 31, 2010

Assets

Non-current assets

Long-term investments

| | | |
|-------------------------------------------------------|----------------|------------|
| Investments in share capital (at fair value) | \$270,000 | |
| Bond sinking fund | 250,000 | |
| Land held for speculation | 40,000 | |
| Land held for future use | <u>270,000</u> | \$ 830,000 |

Property, plant, and equipment

| | | | |
|-----------------------------------------------|----------------|----------------|-----------|
| Land | | 500,000 | |
| Buildings | \$1,040,000 | | |
| Less: Accum. depreciation— building | <u>360,000</u> | 680,000 | |
| Equipment | 450,000 | | |
| Less: Accum. depreciation— equipment | <u>180,000</u> | <u>270,000</u> | |
| Total property, plant, and equipment | | | 1,450,000 |

Intangible assets

| | | | |
|-----------------|--|----------------|---------|
| Franchise | | 165,000 | |
| Goodwill | | <u>100,000</u> | 265,000 |

Current assets

| | | | |
|-----------------------------------------------------------------------|---------------|----------------|--------------------|
| Inventories, at lower of cost (determined using FIFO) or NRV | | 180,000 | |
| Accounts receivable | 170,000 | | |
| Less: Allowance for doubtful accounts | <u>10,000</u> | 160,000 | |
| Trading securities (at fair value) | | 80,000 | |
| Cash | | <u>150,000</u> | |
| Total current assets | | | 570,000 |
| Total assets | | | <u>\$3,115,000</u> |

PROBLEM 5-5 (Continued)**Equity and Liabilities****Equity****Share capital****Preference shares, \$5 par value;****200,000 shares authorized,****90,000 issued and outstanding \$450,000****Ordinary shares, \$1 par value;****400,000 shares authorized,****100,000 issued and outstanding 100,000****Share premium—ordinary (100,000 X****[\$10 – \$1]) 900,000****Retained earnings 320,000****Total shareholders' equity \$1,770,000****Non-current liabilities****Notes payable 120,000****7% bonds payable, due 2018 960,000****Total non-current liabilities 1,080,000****Current liabilities****Notes payable 80,000****Accounts payable 140,000****Taxes payable 40,000****Unearned revenue 5,000****Total current liabilities 265,000****Total liabilities 1,345,000****Total equity and liabilities \$3,115,000**

| |
|--------------------|
| PROBLEM 5-6 |
|--------------------|

(a) **LANSBURY INC.**
Statement of Cash Flows
For the Year Ended December 31, 2010

| | | |
|-----------------------------------------------------------------------------------------|-----------------|------------------------|
| Cash flows from operating activities | | |
| Net income | | \$32,000 |
| Adjustments to reconcile net income to net cash provided by operating activities | | |
| Depreciation expense..... | \$11,000 | |
| Gain on sale of investments | (3,400) | |
| Increase in account receivable (\$41,600 – \$21,200)..... | (20,400) | (12,800) |
| Net cash provided by operating activities..... | | 19,200 |
| Cash flows from investing activities | | |
| Sale of investments | 15,000 | |
| Purchase of land | (18,000) | |
| Net cash used by investing activities | | (3,000) |
| Cash flows from financing activities | | |
| Issuance of ordinary shares | 20,000 | |
| Retirement of notes payable..... | (16,000) | |
| Payment of cash dividends..... | (8,200) | |
| Net cash used by financing activities..... | | (4,200) |
| Net increase in cash | | 12,000 |
| Cash at beginning of year..... | | 20,000 |
| Cash at end of year | | <u>\$32,000</u> |

Noncash investing and financing activities were the purchase of land through issuance of \$30,000 of bonds.

PROBLEM 5-6 (Continued)**(b)**

LANSBURY INC.
Statement of Financial Position
December 31, 2010

| <u>Assets</u> | | <u>Equity and Liabilities</u> | |
|---------------------|------------------|-------------------------------|------------------|
| Investments | \$ 20,400 (1) | Share capital—ordinary | \$120,000 (6) |
| Plant assets (net) | 70,000 (2) | Retained earnings | 47,000 (7) |
| Land | 88,000 (3) | Long-term notes payable | 25,000 (4) |
| Accounts receivable | 41,600 | Bonds payable | 30,000 (5) |
| Cash | <u>32,000</u> | Accounts payable | <u>30,000</u> |
| | <u>\$252,000</u> | | <u>\$252,000</u> |

(1) \$32,000 – (\$15,000 – \$3,400)**(2) \$81,000 – \$11,000****(3) \$40,000 + \$18,000 + \$30,000****(4) \$41,000 – \$16,000****(5) \$0 + \$30,000****(6) \$100,000 + \$20,000****(7) \$23,200 + \$32,000 – \$8,200**

- (c) Cash flow information is useful for assessing the amount, timing, and uncertainty of future cash flows. For example, by showing the specific inflows and outflows from operating activities, investing activities, and financing activities, the user has a better understanding of the liquidity and financial flexibility of the enterprise. Similarly, these reports are useful in providing feedback about the flow of enterprise resources. This information should help users make more accurate predictions of future cash flow. In addition, some individuals have expressed concern about the quality of the earnings because the measurement of the income depends on a number of accruals and estimates which may be somewhat subjective. As a result, the higher the ratio of cash provided by operating activities to net income, the more comfort some users have in the reliability of the earnings. In this problem the ratio of cash provided by operating activities to net income is 60% (\$19,200 ÷ \$32,000).**

PROBLEM 5-6 (Continued)

An analysis of Lansbury free cash flow indicates it is negative as shown below:

Free Cash Flow Analysis

| | |
|-------------------------------------------------|-------------------|
| Net cash provided by operating activities | \$19,200 |
| Less: Purchase of land..... | (18,000) |
| Dividends..... | <u>(8,200)</u> |
| Free cash flow | <u>\$ (7,000)</u> |

Its current cash debt coverage ratio is 0.64 to 1 $\left(\frac{\$19,200}{\$30,000} \right)$ and its cash debt

coverage ratio is 0.25 to 1 $\left(\$19,200 \div \frac{\$71,000 + \$85,000}{2} \right)$, which are reasonable.

Overall, it appears that its liquidity position is average and overall financial flexibility and solvency should be improved.

| |
|--------------------|
| PROBLEM 5-7 |
|--------------------|

(a)

LUO INC.
Statement of Cash Flows
For the Year Ended December 31, 2010

Cash flows from operating activities

| | | |
|-------------------------------------------------------------------------------------|-----------------|--------------|
| Net income..... | | ¥35,000 |
| Adjustments to reconcile net income to net cash provided by operating activities | | |
| Depreciation expense | ¥12,000 | |
| Loss on sale of investments | 5,000 | |
| Increase in accounts payable (¥40,000 – ¥30,000)..... | 10,000 | |
| Increase in accounts receivable (¥42,000 – ¥21,200)..... | <u>(20,800)</u> | <u>6,200</u> |
| Net cash provided by operating activities | | 41,200 |

Cash flows from investing activities

| | | |
|--------------------------------------------|-----------------|----------|
| Sale of investments | 27,000 | |
| Purchase of land | <u>(38,000)</u> | |
| Net cash used by investing activities..... | | (11,000) |

Cash flows from financing activities

| | | |
|------------------------------------------------|-----------------|---------------|
| Issuance of ordinary shares | 30,000 | |
| Payment of cash dividends | <u>(10,000)</u> | |
| Net cash provided by financing activities..... | | <u>20,000</u> |

| | |
|---------------------------------|----------------|
| Net increase in cash..... | 50,200 |
| Cash at beginning of year | <u>20,000</u> |
| Cash at end of year..... | <u>¥70,200</u> |

Noncash investing and financing activities were the purchase of land through issuance of ¥30,000 of bonds.

PROBLEM 5-7 (Continued)

(b)

LUO INC.
Statement of Financial Position
December 31, 2010

| <u>Assets</u> | | <u>Equity and Liabilities</u> | |
|---------------------|-----------------|-------------------------------|-----------------|
| Plant assets (net) | ¥ 69,000 (1) | Share capital—ordinary | ¥130,000 (4) |
| Land | 108,000 (2) | Retained earnings | 48,200 (5) |
| Accounts receivable | 42,000 | Bonds payable | 71,000 (3) |
| Cash | <u>70,200</u> | Accounts payable | <u>40,000</u> |
| | <u>¥289,200</u> | | <u>¥289,200</u> |

(1) ¥81,000 – ¥12,000

(2) ¥40,000 + ¥38,000 + ¥30,000

(3) ¥41,000 + ¥30,000

(4) ¥100,000 + ¥30,000

(5) ¥23,200 + ¥35,000 – ¥10,000

(c) An analysis of Luo's free cash flow indicates it is negative as shown below:

Free Cash Flow Analysis

| | |
|------------------------------------------------|------------------|
| Net cash provided by operating activities..... | ¥ 41,200 |
| Less: Purchase of land..... | (38,000) |
| Dividends | <u>(10,000)</u> |
| Free cash flow | <u>¥ (6,800)</u> |

PROBLEM 5-7 (Continued)

Its current cash debt coverage is 1.18 to 1 $\left(\frac{¥41,200}{¥35,000^*} \right)$. Overall, it appears that its liquidity position is not very strong and overall financial flexibility is strained.

$$*(¥30,000 + ¥40,000) \div 2$$

- (d) This type of information is useful for assessing the amount, timing, and uncertainty of future cash flows. For example, by showing the specific inflows and outflows from operating activities, investing activities, and financing activities, the user has a better understanding of the liquidity and financial flexibility of the enterprise. Similarly, these reports are useful in providing feedback about the flow of enterprise resources. This information should help users make more accurate predictions of future cash flow. In addition, some individuals have expressed concern about the quality of the earnings because the measurement of the income depends on a number of accruals and estimates which may be somewhat subjective. As a result, the higher the ratio of cash provided by operating activities to net income, the more comfort some users have in the reliability of the earnings.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 5-1 (Time 20–25 minutes)

Purpose—to provide a varied number of financial transactions and then determine how each of these items should be reported in the financial statements. Accounting changes, additional assessments of income taxes, prior period adjustments, and changes in estimates are some of the financial transactions presented.

CA 5-2 (Time 25–30 minutes)

Purpose—to present the student with the opportunity to determine whether certain accounts should be classified as current asset and current liability items. Borderline cases are included in which the student is required to state the reasons for the questionable classifications. The number of items to be classified is substantial and provides a good review to assess whether students understand what items should be classified in the current section of the statement of financial position.

CA 5-3 (Time 30–35 minutes)

Purpose—to present the asset section of a partial statement of financial position that must be analyzed to assess its deficiencies. Items such as improper classifications, terminology, and disclosure must be considered.

CA 5-4 (Time 20–25 minutes)

Purpose—to present a statement of financial position that must be analyzed to assess its deficiencies. Items such as improper classification, terminology, and disclosure must be considered.

CA 5-5 (Time 20–25 minutes)

Purpose—to present the student an ethical issue related to the presentation of statement of financial position information. The reporting involves “net presentation” of property, plant and equipment.

CA 5-6 (Time 40–50 minutes)

Purpose—to present a cash flow statement that must be analyzed to explain differences in cash flow and net income, and sources and uses of cash flow and ways to improve cash flow.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 5-1

1. The new estimate would be used in computing depreciation expense for 2010. No adjustment of the balance in accumulated depreciation at the beginning of the year would be made. Instead, the remaining depreciable cost would be divided by the estimated remaining life. This is a change in an estimate and is accounted for prospectively (in the current and future years). Disclosure in the notes to the financial statements is appropriate, if material.
2. The effect of the error at December 31, 2009, should be shown as an adjustment of the beginning balance of retained earnings on the statement of changes in equity. The current year's expense should be adjusted (if necessary) for the possible carryforward of the error into the 2010 expense computation.
3. Generally, an entry is made for a cash dividend on the date of declaration. The appropriate entry would be a debit to Retained Earnings (or Dividends) for the amount to be paid, with a corresponding credit to Dividends Payable. Dividends payable is reported as a current liability.

CA 5-2

Current Assets

Interest accrued on government securities.
Notes receivable.
Petty cash fund.
Government securities.
Cash in bank.
Inventory of operating parts and supplies.
Inventory of raw materials.
Accounts receivable.
 Government contracts.
 Regular (less allowance for doubtful accounts).
 Installments—due next year.
Inventory of finished goods.
Inventory of work in process.

Current Liabilities

Preference dividend, payable Nov. 1, 2010.
Income taxes payable.
Customers' advances (on contracts to be completed next year).
Provision for warranties.
Officers' 2010 bonus accrued.
Accrued payroll.
Notes payable.
Accrued interest on bonds.
Accounts payable.
Accrued interest on notes payable.
6 $\frac{1}{2}$ % First mortgage bonds due in 2010.

CA 5-2 (Continued)

Borderline cases that have been classified on the basis of assumptions are:

1. Notes receivable are assumed to be collectible within the longer of one year or the operating cycle.
2. Government securities are assumed to be a temporary investment of current funds.
3. Accounts receivable—government contracts are assumed to be collectible within the longer of one year or the operating cycle.
4. Notes payable are assumed to be due within the longer of one year or the operating cycle.

(Note to instructor: Allowance for doubtful accounts receivable is not a current asset. It, however, would appear in the current asset section.)

CA 5-3

1. Minority interests should be shown under equity as an addition to total shareholders' equity.
2. Trading securities should be reported at fair value, not cost.
3. Bad Debt Reserve is generally viewed an improper terminology; Allowance for Doubtful Accounts is considered more appropriate. The amount of estimated uncollectibles should be disclosed.
4. Currents assets should be listed last and long-term investments should be reported first followed by "Tangible assets."
5. Heading "Tangible assets" should be changed to "Property, Plant and Equipment" also label for corresponding €630,000 should be changed to "net property, plant, and equipment."
6. Land should not be depreciated.
7. Buildings and equipment and their related accumulated depreciation balances should be separately disclosed.
8. The valuation basis for shares should be disclosed (fair value or equity) and the description should be Available for Sale Securities or Investment in X Company.
9. Treasury shares are not an asset and should be shown in the equity section as a deduction.
10. This land held for future factory site should be reported in the long-term investments section (not with other assets.)
11. Sinking fund should be reported in the long-term investments section.

CA 5-4

Criticisms of the statement of financial position of the Rasheed Brothers Corporation:

1. The basis for the valuation of short-term investments should be shown. Short-term investments are valued at fair value. In addition, they should be classified as either trading securities, available-for-sale securities, or held-to-maturity securities.
2. An allowance for doubtful accounts receivable is not indicated.

CA 5-4 (Continued)

3. The basis for the valuation and the method of pricing for Merchandise Inventory are not indicated.
4. An investment in an associated company is not ordinarily held to be sold within one year or the operating cycle, whichever is longer. As such, this account should not be classified as a current asset, but rather should be included under the heading "Investments." The basis of valuation of the investment should be shown.
5. Current assets should be reported last under Assets, with Short-term investments and Cash listed after Supplies inventory.
6. Treasury shares is not an asset. It should be presented as a deduction in the equity section of the statement of financial position. The class of stock, number of shares, and basis of valuation should be indicated.
7. Buildings and land should be segregated. Accumulated Depreciation should be shown as a subtraction from the Buildings account only.
8. Cash restricted for plant expansion would be more appropriately shown under the heading of "Investments."
9. Equity should be reported before liabilities and current liabilities should be reported after the non-current liabilities.
10. Unrealized Gains on Available-for-Sale Investments should be appropriately reported as accumulated other comprehensive income in the equity section. The use of the term deferred credits is inappropriate.
11. Bonds Payable are inadequately disclosed. The interest rate, interest payment dates, and maturity date should be indicated.
12. Additional disclosure relative to the Share Capital—Ordinary account is needed. This disclosure should include the number of shares authorized, issued, and outstanding.
13. Cash Dividends Declared should be disclosed on the retained earnings statement as a reduction of retained earnings. Dividends Payable, in the amount of \$8,000, should be shown on the statement of financial position among the current liabilities, assuming payment has not occurred.

CA 5-5

1. The ethical issues involved are integrity and honesty in financial reporting, full disclosure, and the accountant's professionalism.
2. While presenting property, plant, and equipment net of depreciation on the statement of financial position may be acceptable, it is inappropriate to attempt to hide information from financial statement users. Information must be useful, and the presentation Keene is considering would not be. Users would not grasp the age of plant assets and the company's need to concentrate its future cash outflows on replacement of these assets. This information could be provided in a note disclosure.

CA 5-5 (Continued)

Because of the significant impact on the financial statements of the depreciation method(s) used, the following disclosures should be made.

- a. Balances of major classes of depreciable assets, by nature and function.
- b. Accumulated depreciation, either by major classes of depreciable assets or in total.
- c. A general description of the method or methods used in computing depreciation with respect to major classes of depreciable assets.

CA 5-6

Date

President Kappeler, CEO
Kappeler Corporation
125 Wall Street
Middleton, Kansas 67458

Dear Mr. Kappeler:

I have good news and bad news about the financial statements for the year ended December 31, 2010. The good news is that net income of \$100,000 is close to what you predicted in the strategic plan last year, indicating strong performance this year. The bad news is that the cash balance is seriously low. Enclosed is the Statement of Cash Flows, which best illustrates how both of these situations occurred simultaneously.

If you look at the operating activities, you can see that no cash was generated by operations due to the increase in accounts receivable and inventory and reduction in accounts payable. In effect, these events caused net cash flow provided by operating activities to be lower than net income; they reduced your cash balance by \$116,000.

The corporation made significant investments in equipment and land. These were paid from cash reserves. These purchases used 75% of the company's cash. In addition, the redemption of the bonds improved the equity of the corporation and reduced interest expense. However, it also used 25% of the corporation's cash. It is normal to use cash for investing and financing activities. But when cash is used, it must also be replenished.

Operations normally provide the cash for investing and financing activities. Since there is a finite amount of assets to sell and funds to borrow or raise from the sale of capital stock, operating activities are the only renewable source of cash. That is why it is important to keep the operating cash flows positive. Cash management requires careful and continuous planning.

There are several possible remedies for the current cash problem. First, prepare a detailed analysis of monthly cash requirements for the next year. Second, investigate the changes in accounts receivable and inventory and work to return them to more normal levels. Third, look for more favorable terms with suppliers to allow the accounts payable to increase without loss of discounts or other costs. Finally, since the land represents a long-term commitment without immediate plans for use, consider shopping for a low interest loan to finance the acquisition for a few years and return the cash balance to a more normal level.

If you have additional questions or need one of our staff to address this problem, please contact me at your convenience.

Sincerely yours,

Partner in Charge

FINANCIAL REPORTING PROBLEM

- (a) M&S could have adopted the account form or report form. M&S uses the report form.
- (b) The techniques of disclosing pertinent information include (1) parenthetical explanations, and (2) cross-reference and contra items. M&S uses parenthetical explanations.
- (c) Investments are reported on M&S's statement of financial position as non-current assets. Note 1 (Accounting Policies) states that Investments are classified as either available-for-sale, fair value through profit or loss, or held to maturity. These securities are valued at fair value. On 29 March 2008, M&S had negative working capital (current assets less than current liabilities) of £807.2 million. On 31 March 2007, M&S's negative working capital was £759.8 million.
- (d) The following table summarizes M&S's cash flows from operating, investing, and financing activities in 2007 and 2008 (in millions).

| | <u>2008</u> | <u>2007</u> |
|-------------------------------------------|-------------|-------------|
| Net cash provided by operating activities | £ 1,069.8 | £1,292.5 |
| Net cash used in investing activities | (966.2) | (650.8) |
| Net cash used in financing activities | (34.2) | (875.6) |

M&S's net cash provided by operating activities decreased by 17% from 2007 to 2008. Changes in accounts payable and in accrued and other liabilities is added to net income because these changes reduce income but not cash flow.

- (e) 1. **Net Cash Provided by Operating Activities ÷ Average Current Liabilities = Current Cash Debt Ratio**

$$\text{£1,069.8} \div \frac{(\text{£1,988.9} + \text{£1,606.2})}{2} = \underline{\underline{0.60:1}}$$

FINANCIAL REPORTING PROBLEM (Continued)

2. Net Cash Provided by Operating Activities ÷ Average Total Liabilities = Cash Debt Coverage Ratio

$$£1,069.8 \div \frac{(\pounds 5,197.0 + \pounds 3,732.8)}{2} = \underline{0.24:1}$$

3. Net cash provided by operating activities less capital expenditures and dividends

| | |
|-------------------------------------------------|------------------|
| Net cash provided by operating activities | £1,069.8 |
| Less: Capital expenditures | £924.6 |
| Dividends | <u>343.6</u> |
| Free cash flow | <u>1,268.2</u> |
| | <u>£ (198.4)</u> |

M&S's financial position appears adequate. Over 20% of its total liabilities can be covered by the current year's operating cash flow and its free cash flow position indicates it is easily meeting its capital investment demands from current free cash flow. However, free cash flow is not sufficient to pay the current level of dividends.

COMPARATIVE ANALYSIS CASE

- (a) Both Cadbury and Nestlé use the report form.
- (b) Cadbury had a negative working capital of £753 million (£2,635 million – £3,888 million); Nestlé had a negative working capital of CHF175 million (CHF33,048 million – CHF33,223 million).
- (c) The most significant difference relates to intangible assets. Nestlé has Goodwill and Other Intangible Assets of CHF37,504 million (35% of assets); Cadbury has Goodwill and Intangible Assets of £3,973 million (or 45% of assets). Nestlé carries much higher levels of property, plant, and equipment. Nestlé also has higher Trade and Other Receivables.
- (d) Cadbury has decreased net cash provided by operating activities from 2007 to 2008 by £343 million or 42%. Nestlé has decreased net cash provided by operating activities by CHF2,676 million or 20%. Both companies have unfavorable trends in the generation of internal funds from operations.
- (e) Cadbury

Current Cash Debt Ratio

$$£469 \div \frac{£3,388 + £4,614}{2} = \underline{0.12:1}$$

Cash Debt Coverage Ratio

$$£469 \div \frac{£5,361 + £7,165}{2} = \underline{0.07:1}$$

COMPARATIVE ANALYSIS CASE (Continued)

(£ millions)

Free cash flow

| | |
|-------------------------------------------------|---------------|
| Net cash provided by operating activities | £ 469 |
| Capital expenditures | (500) |
| Dividends | <u>(295)</u> |
| Free cash flow | <u>£(326)</u> |

Cadbury's free cash flow is £(326).

Nestlé

Current Cash Debt Ratio

$$\text{CHF}10,763 \div \frac{\text{CHF}33,223 + \text{CHF}43,326}{2} = \underline{\underline{0.28:1}}$$

Cash Debt Coverage Ratio

$$\text{CHF}10,763 \div \frac{\text{CHF}51,299 + \text{CHF}60,585}{2} = \underline{\underline{0.19:1}}$$

Free cash flow

| | |
|----------------------------------------------------|------------------|
| Net cash provided by operating activities | CHF10,763 |
| Less: Capital spending..... | (4,869) |
| Dividends | <u>(4,573)</u> |
| Free cash flow | <u>CHF 1,321</u> |

Nestlé also is using significant cash balances to purchase treasury shares CHF8,696 million).

Both companies have strong liquidity and financial flexibility.

FINANCIAL STATEMENT ANALYSIS CASE 1

- (a) These accounts are shown in the order in which Cathay Pacific actually presented the accounts. The order shown may be modified somewhat.

NON-CURRENT ASSETS AND LIABILITIES

Fixed assets

Intangible assets

Investments in associates

Other long-term receivables and investments

LONG-TERM LIABILITIES

Deferred taxation

Retirement benefit obligations

NET NON-CURRENT ASSETS

CURRENT ASSETS AND LIABILITIES

Trade and other receivables

Liquid funds

Current portion of long-term liabilities

Trade and other payables

Unearned transportation revenue

Taxation

CAPITAL AND RESERVES

Share capital—ordinary shares

Reserves

Funds attributable to owners of Cathay Pacific

Minority interests

- (b) When Cathay passengers purchase tickets for future flights, Cash and Unearned Transportation Revenue are affected. Both of these accounts balances would increase when passengers purchase tickets prior to their flight.

FINANCIAL STATEMENT ANALYSIS CASE 2

- (a) The raw materials price increase is not a required disclosure. However, the company might well want to inform shareholders in the management discussion and analysis section, especially as a means for company management to point out an area of success. If the company had not been able to successfully meet the challenge, then the reporting in the discussion and analysis section would be for the purpose of explaining poorer than expected operating results.
- (b) The information in item (2) should be reported as follows: The \$4,000,000 outstanding should, of course, be included in the statement of financial position as a part of liabilities (current or non-current, depending on the terms of the loan). The fact that an additional \$11,000,000 or so is available for borrowing should be disclosed in the notes to the financial statements, as also should the fact that the loan is based on the accounts receivable.

FINANCIAL STATEMENT ANALYSIS CASE 3

(a) Working Capital, Current Ratio

Without off-balance sheet commitments

Working Capital

$$€10,850 - €7,461 = €3,389$$

Current Ratio

$$€10,850 \div €7,461 = 1.45$$

With off-balance sheet commitments

Off-balance sheet current obligations = €1,466 (€642 + €824)

Working Capital

$$\begin{aligned} €10,850 - (€7,461 + €1,466) \\ = €1,923 \end{aligned}$$

Current Ratio

$$\begin{aligned} €10,850 \div (€7,461 + €1,466) \\ = 1.21 \end{aligned}$$

Without information on off-balance sheet commitments, an analyst would overstate Dior's liquidity, as measured by working capital and the current ratio.

- (b)
1. Based on the analysis in Part (a), Dior has a pretty good liquidity cushion. It would be able to pay a loan of up to €1,923 million, if due in one year.
 2. Additional off-balance sheet commitments of €2,862 (€785 + €2,077) in years 2 through 5 are relevant in assessing whether Dior can repay a loan maturing in 5 years. In evaluating a longer term loan, an analyst would need to develop a prediction of Dior's cash flows over the next 5 years that would be used to repay a longer term loan.

In summary, the note provides information about off-balance sheet obligations—both the amounts and when due. This helps the analyst assess both liquidity and solvency of a company.

FINANCIAL STATEMENT ANALYSIS CASE 4

| (a) (₩ in billions) | 2008 | 2007 |
|-----------------------------------|---------|--------|
| Cash provided by operations | ₩10,217 | ₩8,807 |
| Capital expenditures..... | ₩8,190 | ₩5,071 |
| Dividends paid | 659 | 423 |
| Free cash flow | 8,849 | 5,494 |
| | ₩-1,368 | ₩3,313 |

As indicated above, LG Korea's free cash flow in 2008 and 2007 was ₩1,368 billion and ₩3,313 billion respectively. LG Korea shows a significant declining trend in profitability and cash provided by operations. Depending on the investment required to build the warehouses, it appears they might not be able to finance the warehouses with internal funds.

- (b) Cash provided by operations increased in 2008 relative to 2007 by ₩1,410 billion. This is due to a net decrease in working capital and other non-cash income adjustments. This increase helped LG Korea increase its capital expenditures by ₩3,119 during 2008.

- (a) Some of the differences are:
1. ***Report form and subtotals***—Nordstrom uses a modified report form but does not report “Total non-current assets.” It also does not report “Total liabilities.” Nordstrom also uses “Total liabilities and shareholders’ equity” instead of just “Total liabilities and equity.”
 2. ***Classifications***—the classifications are arranged according to decreasing liquidity. For example, “Current assets” are listed first, then “Property, plant, and equipment”. Current liabilities are presented before non-current liabilities. Inventory is not listed as the first current asset. Equity is reported before liabilities under IFRS.
 3. ***Terminology***—For example, “Common stock” is used instead of “Share capital”. The term “Long-term debt” is used instead of “Non-current liabilities.
 4. ***Units of currency***—Nordstrom reports in U.S. dollars instead of euros or yen.
- (b) Since Nordstrom reports total current assets and current liabilities, both working capital and the current ratio (Appendix 5A) can be computed. In addition, the debt to total assets and book value per share (Appendix 5A) can be computed also.

ACCOUNTING, ANALYSIS, AND PRINCIPLES

ACCOUNTING

HOPKINS COMPANY Statement of Financial Position December 31, 2010

| <u>Assets</u> | | | |
|----------------------------------------------|---------------|---------------|------------------|
| <u>Non-current assets</u> | | | |
| <u>Long-term investments</u> | | | |
| Bond sinking fund..... | | | \$ 15,000 |
| <u>Property, plant, and equipment</u> | | | |
| Equipment..... | \$112,000 | | |
| Less: Accumulated depreciation—equipment.... | <u>28,000</u> | | 84,000 |
| <u>Intangible assets</u> | | | |
| Patents | | | 15,000 |
| <u>Current Assets</u> | | | |
| Inventories..... | | 65,300 | |
| Accounts receivable (\$52,000 – \$9,000)... | \$43,000 | | |
| Less: Allowance for doubtful accounts | | | |
| (\$13,500 – \$9,000) | <u>4,500</u> | 38,500 | |
| Cash (\$75,000 – \$15,000) | | <u>60,000</u> | |
| Total current assets..... | | | <u>163,800</u> |
| Total assets | | | <u>\$277,800</u> |
| <u>Equity and Liabilities</u> | | | |
| <u>Equity</u> | | | |
| Share capital-ordinary | | \$100,000 | |
| Retained earnings | | <u>50,800</u> | |
| Total shareholders' equity..... | | | \$150,800 |
| <u>Non-current liabilities</u> | | | |
| Notes payable (due 2012) | | 75,000 | |
| <u>Current liabilities</u> | | | |
| Notes and accounts payable | | <u>52,000</u> | |
| Total liabilities..... | | | <u>127,000</u> |
| Total equity and liabilities | | | <u>\$277,800</u> |

Au: Is it correct. Pls confirm

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

ANALYSIS

The classified statement of financial position provides subtotals for current assets and current liabilities, which are assets expected to be converted to cash (or liabilities expected to be paid from cash) in the next year or operating cycle (also referred to as liquidity). Thus, an analysis of current assets relative to current liabilities provides information relevant to assessing Hopkins' ability to repay a loan within the next year. Specifically, current assets in excess of current liabilities (working capital) is \$111,800 (\$163,800 – \$52,000.) This seems to be a safe liquidity cushion relative to an additional loan of \$45,000. Of course, the loan officer also would evaluate Hopkins' earnings and cash flows in the analysis.

PRINCIPLES

The primary objection that the bank is likely to raise about this supplemental information is the reliability of the estimates of fair values for the long-lived assets and the internally generated intangibles. In addition, the loan officer might not consider information about these long-term assets to be that relevant to the loan decision, because the loan is short-term.

- (a) International Accounting Standard 8 covers the disclosure of accounting policies
- (b) Accounting policies are the specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements (para. 5)
- (c) An entity shall select and apply its accounting policies consistently for similar transactions, other events and conditions, unless an IFRS specifically requires or permits categorisation of items for which different policies may be appropriate. If an IFRS requires or permits such categorisation, an appropriate accounting policy shall be selected and applied consistently to each category. (para. 13)

An entity shall change an accounting policy only if the change:

- a. is required by an IFRS; or
- b. results in the financial statements providing reliable and more relevant information about the effects of transactions, other events or conditions on the entity's financial position, financial performance or cash flows. (para. 14)

(d) Disclosure

When initial application of an IFRS has an effect on the current period or any prior period, would have such an effect except that it is impracticable to determine the amount of the adjustment, or might have an effect on future periods, an entity shall disclose:

- a. the title of the IFRS;
- b. when applicable, that the change in accounting policy is made in accordance with its transitional provisions;
- c. the nature of the change in accounting policy;
- d. when applicable, a description of the transitional provisions;
- e. when applicable, the transitional provisions that might have an effect on future periods;

PROFESSIONAL RESEARCH (Continued)

- f. for the current period and each prior period presented, to the extent practicable, the amount of the adjustment:
 - (i) for each financial statement line item affected; and
 - (ii) if IAS 33 *Earnings per Share* applies to the entity, for basic and diluted earnings per share;
- g. the amount of the adjustment relating to periods before those presented, to the extent practicable; and
- h. if retrospective application required by paragraph 19(a) or (b) is impracticable for a particular prior period, or for periods before those presented, the circumstances that led to the existence of that condition and a description of how and from when the change in accounting policy has been applied.

Financial statements of subsequent periods need not repeat these disclosures. (para. 28)

When a voluntary change in accounting policy has an effect on the current period or any prior period, would have an effect on that period except that it is impracticable to determine the amount of the adjustment, or might have an effect on future periods, an entity shall disclose:

- a. the nature of the change in accounting policy;
- b. the reasons why applying the new accounting policy provides reliable and more relevant information;
- c. for the current period and each prior period presented, to the extent practicable, the amount of the adjustment:
 - (i) for each financial statement line item affected; and
 - (ii) if IAS 33 applies to the entity, for basic and diluted earnings per share;
- d. the amount of the adjustment relating to periods before those presented, to the extent practicable; and
- e. if retrospective application is impracticable for a particular prior period, or for periods before those presented, the circumstances that led to the existence of that condition and a description of how and from when the change in accounting policy has been applied.

Financial statements of subsequent periods need not repeat these disclosures (para. 29).

PROFESSIONAL SIMULATION

FINANCIAL STATEMENT

LANCE LIVESTRONG COMPANY Statement of Financial Position December 31, 2010

Assets

Non-current assets

Long-term investments

| | | |
|---------------------------|--|----------|
| Plant expansion fund..... | | € 20,000 |
|---------------------------|--|----------|

Property, plant, and equipment

| | | |
|----------------------------------------------------|---------------|---------|
| Equipment | €132,000 | |
| Less: Accumulated depreciation— equipment | <u>28,000</u> | 104,000 |

Intangible assets

| | | |
|--------------|--|--------|
| Patents..... | | 25,000 |
|--------------|--|--------|

Current assets

| | | |
|--------------------------------------------------|---------------|-----------------|
| Inventories | 65,300 | |
| Accounts receivable (€38,500 + €13,500) | € 52,000 | |
| Less: Allowance for doubtful accounts..... | <u>13,500</u> | 38,500 |
| Cash (€50,000 – €20,000) | <u>30,000</u> | |
| Total current assets..... | | <u>133,800</u> |
| Total assets | | <u>€282,800</u> |

PROFESSIONAL SIMULATION (Continued)

Equity and Liabilities

Equity

| | | |
|--------------------------------------|---------------|-----------------|
| Share capital—ordinary (€1 par)..... | €50,000 | |
| Share premium..... | 55,000 | |
| Retained earnings | <u>20,800</u> | |
| Total shareholders' equity | | <u>€125,800</u> |

Non-current liabilities

| | |
|---------------------------------------------|---------|
| Bonds payable (9%, due June 30, 2018) | 100,000 |
|---------------------------------------------|---------|

Current liabilities

| | | |
|------------------------------------|--------------|-----------------|
| Note payable | €17,000 | |
| Accounts payable..... | 32,000 | |
| Taxes payable..... | <u>8,000</u> | |
| Total current liabilities..... | | <u>57,000</u> |
| Total liabilities | | <u>157,000</u> |
| Total equity and liabilities | | <u>€282,800</u> |

Au: Is it correct. Pls confirm

ANALYSIS

$$\begin{aligned}
 Z &= \frac{\text{Working capital}}{\text{Total assets}} \times 1.2 + \frac{\text{Retained earnings}}{\text{Total assets}} \times 1.4 + \frac{\text{EBIT}}{\text{Total assets}} \times 3.3 \\
 &\quad + \frac{\text{Sales}}{\text{Total assets}} \times 0.99 + \frac{\text{MV equity}}{\text{Total liabilities}} \times 0.6 \\
 &= \frac{(\text{€133,800} - \text{€57,000})}{\text{€282,800}} \times 1.2 + \frac{\text{€20,800}}{\text{€282,800}} \times 1.4 + \frac{\text{€14,000}}{\text{€282,800}} \times 3.3 \\
 &\quad + \frac{\text{€210,000}}{\text{€282,800}} \times 0.99 + \frac{\text{€225,000}}{\text{€157,000}} \times 0.6 \\
 &= .3259 + .1030 + .1634 + .7351 + .8599 = 2.1873
 \end{aligned}$$

PROFESSIONAL SIMULATION (Continued)

Livestrong's Z-Score is above the "likely-to-fail" level of 1.81 but also below the unlikely-to-fail value of 3.0. Livestrong should be concerned about his company's situation.

RESEARCH

Search string: "current and non-current assets and liabilities."

IAS 1: Presentation of Financial Statements

This Standard does not prescribe the order or format in which an entity presents items. Paragraph 54 simply lists items that are sufficiently different in nature or function to warrant separate presentation in the statement of financial position. In addition:

- (a) line items are included when the size, nature or function of an item or aggregation of similar items is such that separate presentation is relevant to an understanding of the entity's financial position; and
- (b) the descriptions used and the ordering of items or aggregation of similar items may be amended according to the nature of the entity and its transactions, to provide information that is relevant to an understanding of the entity's financial position. For example, a financial institution may amend the above descriptions to provide information that is relevant to the operations of a financial institution (para. 57).

An entity makes the judgement about whether to present additional items separately on the basis of an assessment of:

- (a) the nature and liquidity of assets;
- (b) the function of assets within the entity; and
- (c) the amounts, nature and timing of liabilities (para. 58).

The use of different measurement bases for different classes of assets suggests that their nature or function differs and, therefore, that an entity presents them as separate line items. For example, different classes of property, plant and equipment can be carried at cost or at revalued amounts in accordance with IAS 16 (para. 59).

CHAPTER 6

Accounting and the Time Value of Money

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems |
|----------------------------------------------------------------------|--------------------------|-----------------|-------------------------------|------------------------------|
| 1. Present value concepts. | 1, 2, 3, 4, 5, 9, 17, 19 | | | |
| 2. Use of tables. | 13, 14 | 8 | 1 | |
| 3. Present and future value problems: | | | | |
| a. Unknown future amount. | 7, 19 | 1, 5, 13 | 2, 3, 4, 6 | |
| b. Unknown payments. | 10, 11, 12 | 6, 12, 17 | 8, 16, 17 | 2, 7 |
| c. Unknown number of periods. | | 4, 9 | 10, 15 | 2 |
| d. Unknown interest rate. | 15, 18 | 3, 11, 16 | 9, 10, 11 | 2, 7 |
| e. Unknown present value. | 8, 19 | 2, 7, 8, 10, 14 | 3, 4, 5, 6, 8, 12, 17, 18, 19 | 1, 4, 6, 7, 9, 13, 14, 15 |
| 4. Value of a series of irregular deposits; changing interest rates. | | | | 3, 5, 8 |
| 5. Valuation of leases, pensions, bonds; choice between projects. | 6 | 15 | 7, 12, 13, 14, 15 | 1, 3, 5, 6, 8, 9, 10, 11, 12 |
| 6. Deferred annuity. | 16 | | | |
| 7. Expected cash flows. | | | 20, 21, 22 | 13, 14, 15 |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|--------------------------------------------------------------------------|------------------------|--------------------------------|---------------------------------|
| 1. Identify accounting topics where the time value of money is relevant. | | | |
| 2. Distinguish between simple and compound interest. | | 2 | |
| 3. Use appropriate compound interest tables. | | 1 | |
| 4. Identify variables fundamental to solving interest problems. | | | |
| 5. Solve future and present value of 1 problems. | 1, 2, 3, 4, 7, 8 | 2, 3, 6, 9, 10, 15 | 1, 2, 3, 5, 7, 9, 10 |
| 6. Solve future value of ordinary and annuity due problems. | 5, 6, 9, 13 | 3, 4, 5, 6, 15, 16 | 2, 7, 10 |
| 7. Solve present value of ordinary and annuity due problems. | 10, 11, 12, 14, 16, 17 | 3, 4, 5, 6, 11, 12, 17, 18, 19 | 1, 3, 4, 5, 7, 8, 9, 10, 13, 14 |
| 8. Solve present value problems related to deferred annuities and bonds. | 15 | 5, 7, 8, 13, 14 | 6, 11, 12 |
| 9. Apply expected cash flows to present value measurement. | | 20, 21, 22 | 13, 14, 15 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|-------|---------------------------------------------------------|---------------------|----------------|
| E6-1 | Using interest tables. | Simple | 5–10 |
| E6-2 | Simple and compound interest computations. | Simple | 5–10 |
| E6-3 | Computation of future values and present values. | Simple | 10–15 |
| E6-4 | Computation of future values and present values. | Moderate | 15–20 |
| E6-5 | Computation of present value. | Simple | 10–15 |
| E6-6 | Future value and present value problems. | Moderate | 15–20 |
| E6-7 | Computation of bond prices. | Moderate | 12–17 |
| E6-8 | Computations for a retirement fund. | Simple | 10–15 |
| E6-9 | Unknown rate. | Moderate | 5–10 |
| E6-10 | Unknown periods and unknown interest rate. | Simple | 10–15 |
| E6-11 | Evaluation of purchase options. | Moderate | 10–15 |
| E6-12 | Analysis of alternatives. | Simple | 10–15 |
| E6-13 | Computation of bond liability. | Moderate | 15–20 |
| E6-14 | Computation of pension liability. | Moderate | 15–20 |
| E6-15 | Investment decision. | Moderate | 15–20 |
| E6-16 | Retirement of debt. | Simple | 10–15 |
| E6-17 | Computation of amount of rentals. | Simple | 10–15 |
| E6-18 | Least costly payoff. | Simple | 10–15 |
| E6-19 | Least costly payoff. | Simple | 10–15 |
| E6-20 | Expected cash flows. | Simple | 5–10 |
| E6-21 | Expected cash flows and present value. | Moderate | 15–20 |
| E6-22 | Fair value estimate. | Moderate | 15–20 |
| P6-1 | Various time value situations. | Moderate | 15–20 |
| P6-2 | Various time value situations. | Moderate | 15–20 |
| P6-3 | Analysis of alternatives. | Moderate | 20–30 |
| P6-4 | Evaluating payment alternatives. | Moderate | 20–30 |
| P6-5 | Analysis of alternatives. | Moderate | 20–25 |
| P6-6 | Purchase price of a business. | Moderate | 25–30 |
| P6-7 | Time value concepts applied to solve business problems. | Complex | 30–35 |
| P6-8 | Analysis of alternatives. | Moderate | 20–30 |
| P6-9 | Analysis of business problems. | Complex | 30–35 |
| P6-10 | Analysis of lease vs. purchase. | Complex | 30–35 |
| P6-11 | Pension funding. | Complex | 25–30 |
| P6-12 | Pension funding. | Moderate | 20–25 |
| P6-13 | Expected cash flows and present value. | Moderate | 20–25 |
| P6-14 | Expected cash flows and present value. | Moderate | 20–25 |
| P6-15 | Fair value estimate. | Complex | 20–25 |

ANSWERS TO QUESTIONS

1. Money has value because with it one can acquire assets and services and discharge obligations. The holding, borrowing or lending of money can result in costs or earnings. And the longer the time period involved, the greater the costs or the earnings. The cost or earning of money as a function of time is the time value of money.

Accountants must have a working knowledge of compound interest, annuities, and present value concepts because of their application to numerous types of business events and transactions which require proper valuation and presentation. These concepts are applied in the following areas: (1) sinking funds, (2) installment contracts, (3) pensions, (4) long-term assets, (5) leases, (6) notes receivable and payable, (7) business combinations, (8) amortization of premiums and discounts, and (9) estimation of fair value.

2. Some situations in which present value measures are used in accounting include:
 - (a) Notes receivable and payable—these involve single sums (the face amounts) and may involve annuities, if there are periodic interest payments.
 - (b) Leases—involve measurement of assets and obligations, which are based on the present value of annuities (lease payments) and single sums (if there are residual values to be paid at the conclusion of the lease).
 - (c) Pensions and other deferred compensation arrangements—involve discounted future annuity payments that are estimated to be paid to employees upon retirement.
 - (d) Bond pricing—the price of bonds payable is comprised of the present value of the principal or face value of the bond plus the present value of the annuity of interest payments.
 - (e) Long-term assets—evaluating various long-term investments or assessing whether an asset is impaired requires determining the present value of the estimated cash flows (may be single sums and/or an annuity).
3. Interest is the payment for the use of money. It may represent a cost or earnings depending upon whether the money is being borrowed or loaned. The earning or incurring of interest is a function of the time, the amount of money, and the risk involved (reflected in the interest rate).

Simple interest is computed on the amount of the principal only, while compound interest is computed on the amount of the principal plus any accumulated interest. Compound interest involves interest on interest while simple interest does not.

4. The interest rate generally has three components:
 - (a) Pure rate of interest—This would be the amount a lender would charge if there were no possibilities of default and no expectation of inflation.
 - (b) Expected inflation rate of interest—Lenders recognize that in an inflationary economy, they are being paid back with less valuable dollars. As a result, they increase their interest rate to compensate for this loss in purchasing power. When inflationary expectations are high, interest rates are high.
 - (c) Credit risk rate of interest—The government has little or no credit risk (i.e., risk of nonpayment) when it issues bonds. A business enterprise, however, depending upon its financial stability, profitability, etc. can have a low or a high credit risk.

Accountants must have knowledge about these components because these components are essential in identifying an appropriate interest rate for a given company or investor at any given moment.

5.
 - (a) Present value of an ordinary annuity at 8% for 10 periods (Table 6-4).
 - (b) Future value of 1 at 8% for 10 periods (Table 6-1).
 - (c) Present value of 1 at 8% for 10 periods (Table 6-2).
 - (d) Future value of an ordinary annuity at 8% for 10 periods (Table 6-3).

Questions Chapter 6 (Continued)

6. He should choose quarterly compounding, because the balance in the account on which interest will be earned will be increased more frequently, thereby resulting in more interest earned on the investment. This is shown in the following calculation:

Semiannual compounding, assuming the amount is invested for 2 years:

$$\begin{array}{l} n = 4 \\ \text{R\$1,500} \times 1.16986 = \text{R\$1,754.79} \\ i = 4 \end{array}$$

Quarterly compounding, assuming the amount is invested for 2 years:

$$\begin{array}{l} n = 8 \\ \text{R\$1,500} \times 1.17166 = \text{R\$1,757.49} \\ i = 2 \end{array}$$

Thus, with quarterly compounding, Jose could earn R\$2.70 more.

7. $\$26,897.80 = \$20,000 \times 1.34489$ (future value of 1 at $2\frac{1}{2}\%$ for 12 periods).
8. $\$44,671.20 = \$80,000 \times .55839$ (present value of 1 at 6% for 10 periods).
9. An annuity involves (1) periodic payments or receipts, called rents, (2) of the same amount, (3) spread over equal intervals, (4) with interest compounded once each interval.

Rents occur at the end of the intervals for ordinary annuities while the rents occur at the beginning of each of the intervals for annuities due.

10. Amount paid each year = $\frac{\text{€}40,000}{3.03735}$ (present value of an ordinary annuity at 12% for 4 years).

Amount paid each year = €13,169.37.

11. Amount deposited each year = $\frac{\text{¥}20,000,000}{4.64100}$ (future value of an ordinary annuity at 10% for 4 years).

Amount deposited each year = ¥4,309,416.

12. Amount deposited each year = $\frac{\text{¥}20,000,000}{5.10510}$ [future value of an annuity due at 10% for 4 years (4.64100 X 1.10)].

Amount deposited each year = ¥3,917,651.

13. The process for computing the future value of an annuity due using the future value of an ordinary annuity interest table is to multiply the corresponding future value of the ordinary annuity by one plus the interest rate. For example, the factor for the future value of an annuity due for 4 years at 12% is equal to the factor for the future value of an ordinary annuity times 1.12.
14. The basis for converting the present value of an ordinary annuity table to the present value of an annuity due table involves multiplying the present value of an ordinary annuity factor by one plus the interest rate.

Questions Chapter 6 (Continued)

15. Present value = present value of an ordinary annuity of \$25,000 for 20 periods at? percent.

\$245,000 = present value of an ordinary annuity of \$25,000 for 20 periods at? percent.

$$\text{Present value of an ordinary annuity for 20 periods at? percent} = \frac{\$245,000}{\$25,000} = 9.8.$$

The factor 9.8 is closest to 9.81815 in the 8% column (Table 6-4).

16. 4.96764 Present value of ordinary annuity at 12% for eight periods.
2.40183 Present value of ordinary annuity at 12% for three periods.
2.56581 Present value of ordinary annuity at 12% for eight periods, deferred three periods.

The present value of the five rents is computed as follows:

$$2.56581 \times £20,000 = \underline{\underline{£51,316.20}}.$$

17. (a) Present value of an annuity due.
(b) Present value of 1.
(c) Future value of an annuity due.
(d) Future value of 1.
18. \$27,600 = PV of an ordinary annuity of \$6,900 for five periods at? percent.

$$\frac{\$27,600}{\$6,900} = \text{PV of an ordinary annuity for five periods at? percent.}$$

4.0 = PV of an ordinary annuity for five periods at? percent

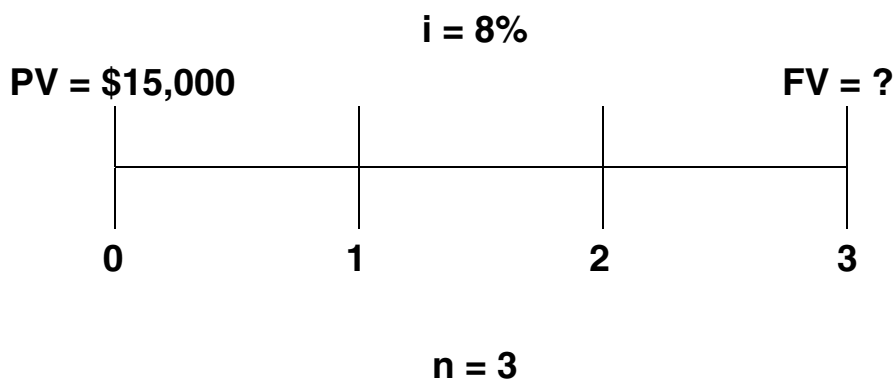
4.0 = approximately 8%.

19. The taxing authority argues that the future reserves should be discounted to present value. The result would be smaller reserves and therefore less of a charge to income. As a result, income would be higher and income taxes may therefore be higher as well.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 6-1

8% annual interest

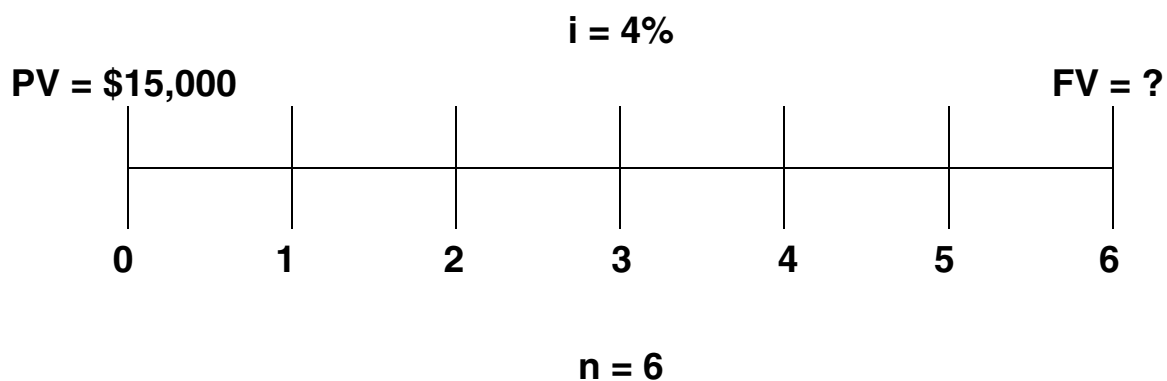


$$FV = \$15,000 (FVF_{3, 8\%})$$

$$FV = \$15,000 (1.25971)$$

$$FV = \$18,895.65$$

8% annual interest, compounded semiannually



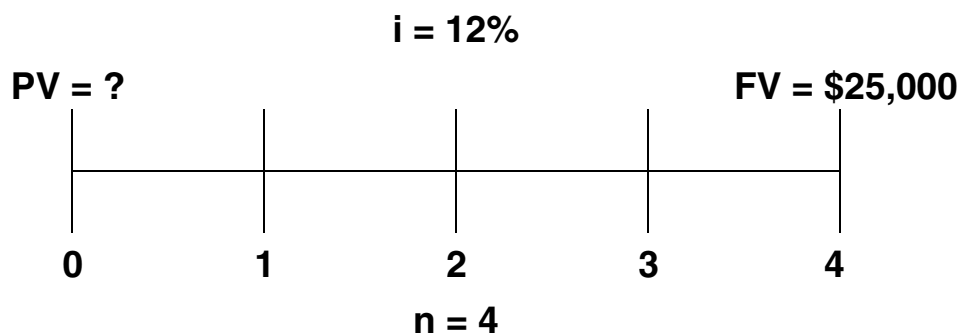
$$FV = \$15,000 (FVF_{6, 4\%})$$

$$FV = \$15,000 (1.26532)$$

$$FV = \$18,979.80$$

BRIEF EXERCISE 6-2

12% annual interest

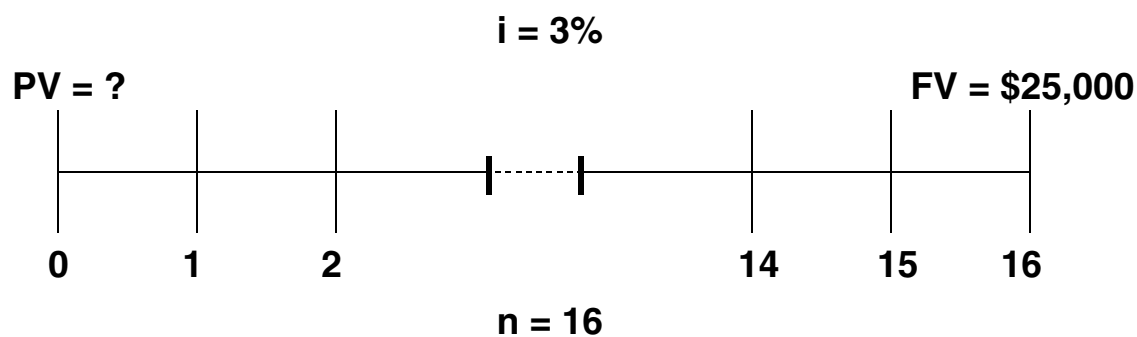


$$PV = \$25,000 (PVF_{4, 12\%})$$

$$PV = \$25,000 (.63552)$$

$$PV = \$15,888$$

12% annual interest, compounded quarterly

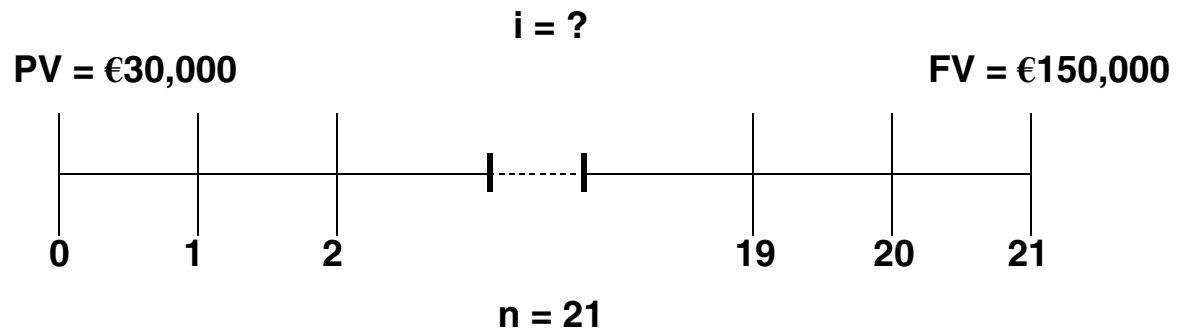


$$PV = \$25,000 (PVF_{16, 3\%})$$

$$PV = \$25,000 (.62317)$$

$$PV = \$15,579.25$$

BRIEF EXERCISE 6-3



$$FV = PV (FVF_{21, i})$$

$$€150,000 = €30,000 (FVF_{21, i})$$

$$FVF_{21, i} = 5.0000$$

$$i = 8\%$$

OR

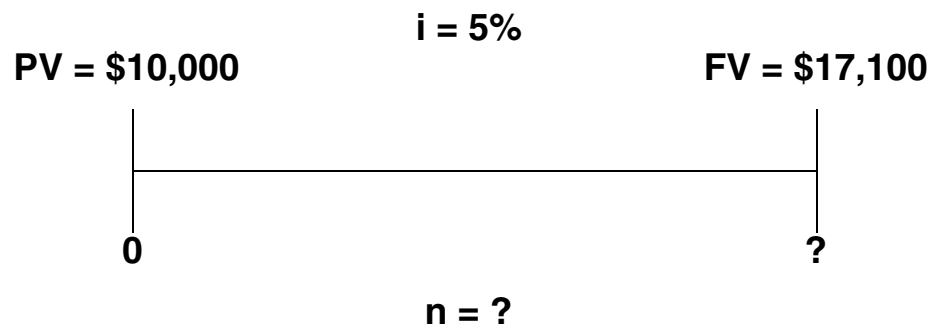
$$PV = FV (PVF_{21, i})$$

$$€30,000 = €150,000 (PVF_{21, i})$$

$$PVF_{21, i} = .20000$$

$$i = 8\%$$

BRIEF EXERCISE 6-4



$$FV = PV (FVF_{n, 5\%})$$

$$\$17,100 = \$10,000 (FVF_{n, 5\%})$$

$$FVF_{n, 5\%} = 1.71000$$

$$n = 11 \text{ years}$$

OR

$$PV = FV (PVF_{n, 5\%})$$

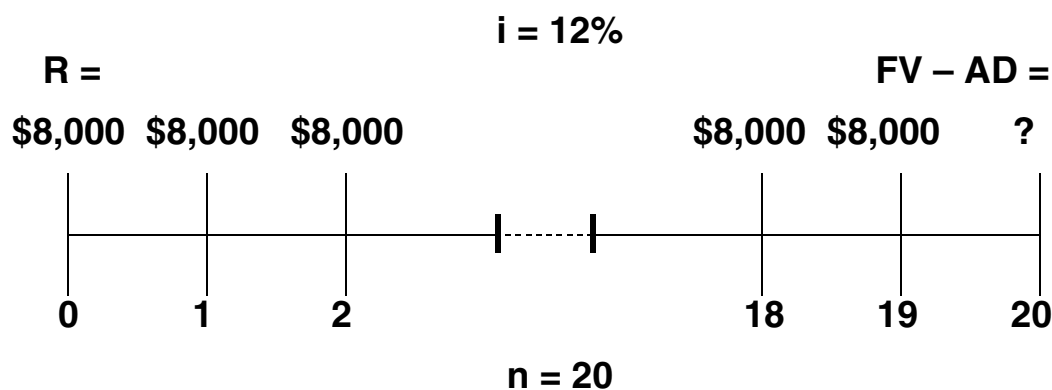
$$\$10,000 = \$17,100 (PVF_{n, 5\%})$$

$$PVF_{n, 5\%} = .58480$$

$$n = 11 \text{ years}$$

BRIEF EXERCISE 6-5

First payment today (Annuity Due)

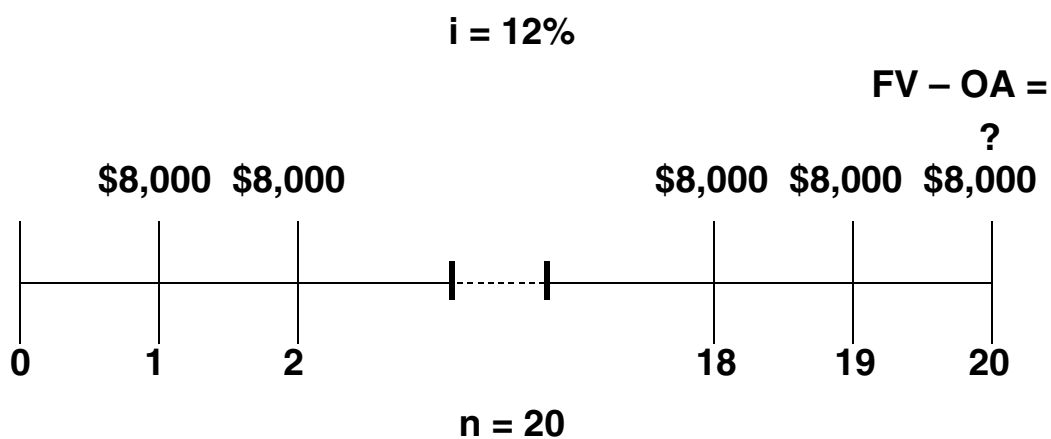


$$FV - AD = \$8,000 (FVF - OA_{20, 12\%}) 1.12$$

$$FV - AD = \$8,000 (72.05244) 1.12$$

$$FV - AD = \$645,589.86$$

First payment at year-end (Ordinary Annuity)

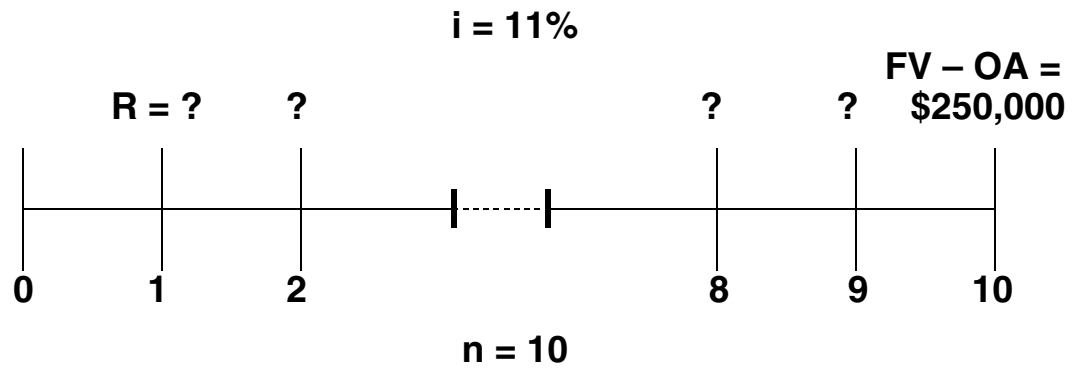


$$FV - OA = \$8,000 (FVF - OA_{20, 12\%})$$

$$FV - OA = \$8,000 (72.05244)$$

$$FV - OA = \$576,419.52$$

BRIEF EXERCISE 6-6



$$\$250,000 = R (FVF - OA_{10, 11\%})$$

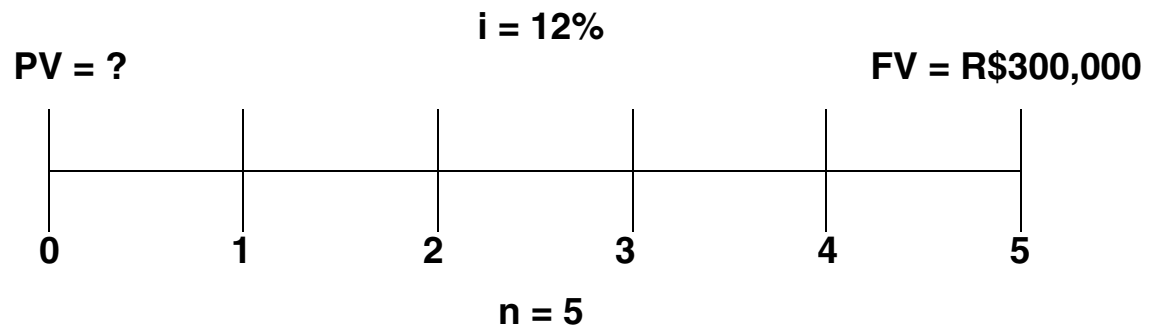
$$\$250,000 = R (16.72201)$$

$$\frac{\$250,000}{16.72201} = R$$

$$R = \$14,950$$

BRIEF EXERCISE 6-7

12% annual interest



$$PV = R\$300,000 (PVF_{5, 12\%})$$

$$PV = R\$300,000 (.56743)$$

$$PV = R\$170,229$$

BRIEF EXERCISE 6-8

With quarterly compounding, there will be 20 quarterly compounding periods, at 1/4 the interest rate:

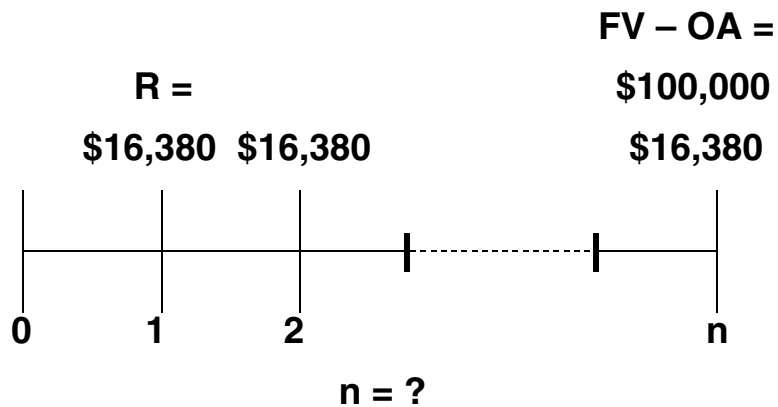
$$PV = R\$300,000 (PVF_{20, 3\%})$$

$$PV = R\$300,000 (.55368)$$

$$PV = R\$166,104$$

BRIEF EXERCISE 6-9

$$i = 10\%$$



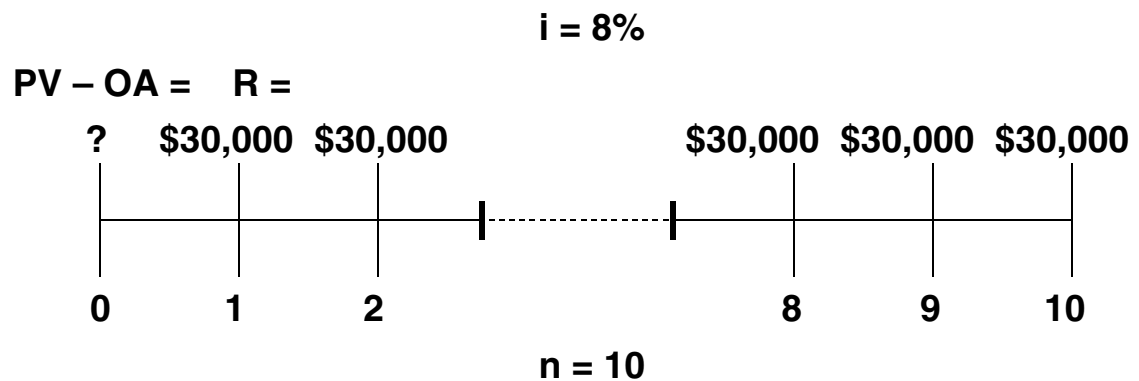
$$\$100,000 = \$16,380 (FVF - OA_{n, 10\%})$$

$$FVF - OA_{n, 10\%} = \frac{\$100,000}{16,380} = 6.10501$$

Therefore, $n = 5$ years

BRIEF EXERCISE 6-10

First withdrawal at year-end

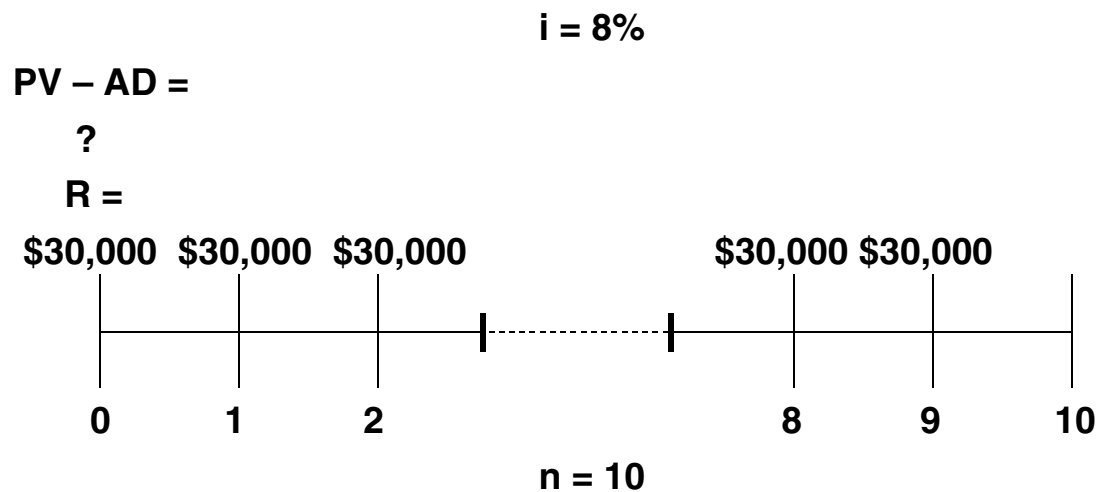


$$PV - OA = \$30,000 (PVF - OA_{10, 8\%})$$

$$PV - OA = \$30,000 (6.71008)$$

$$PV - OA = \$201,302$$

First withdrawal immediately

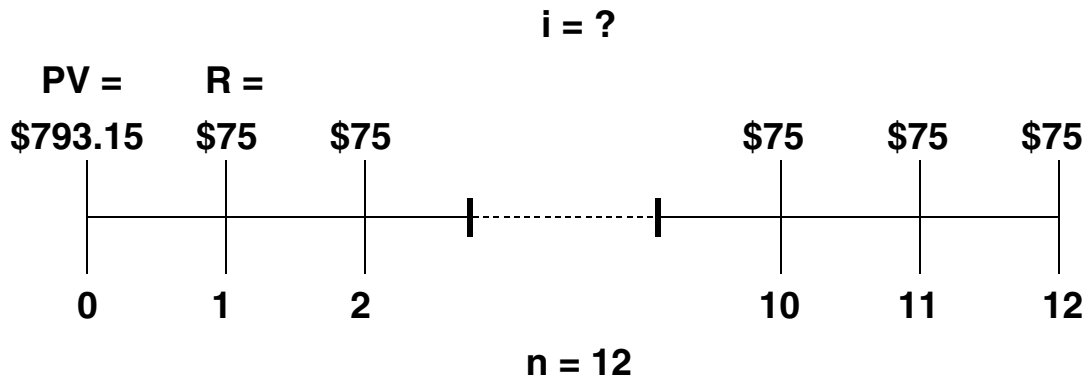


$$PV - AD = \$30,000 (PVF - AD_{10, 8\%})$$

$$PV - AD = \$30,000 (7.24689)$$

$$PV - AD = \$217,407$$

BRIEF EXERCISE 6-11

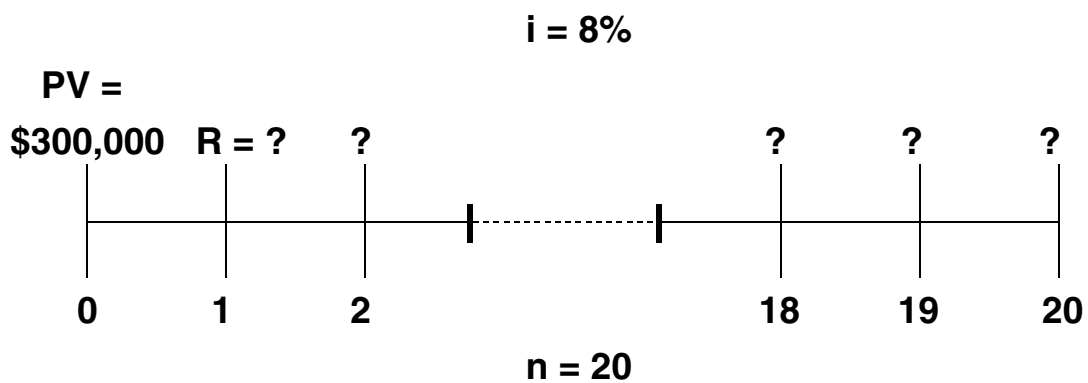


$$\text{\$793.15} = \text{\$75 (PVF - OA}_{12, i}\text{)}$$

$$\text{PVF}_{12, i} = \frac{\$793.15}{\$75} = 10.57533$$

Therefore, $i = 2\%$ per month or 24% per year.

BRIEF EXERCISE 6-12

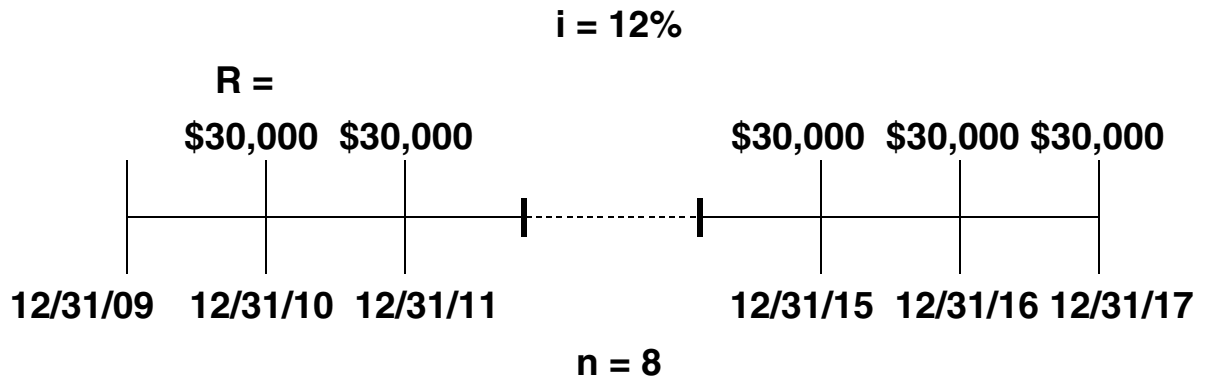


$$\text{\$300,000} = R (\text{PVF} - \text{OA}_{20, 8\%})$$

\$300,000 = R (9.81815)

R = \$30,556

BRIEF EXERCISE 6-13

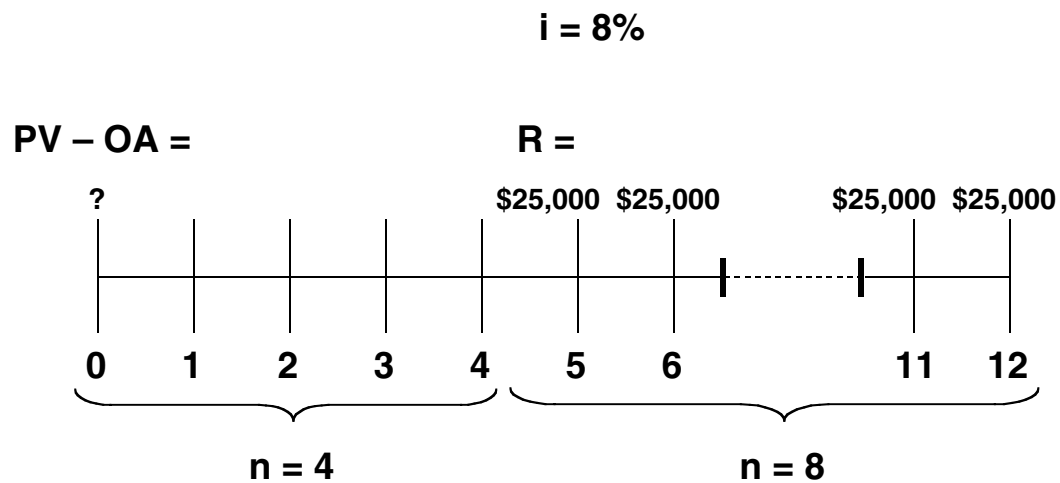


$$FV - OA = \$30,000 (FVF - OA_{8, 12\%})$$

$$FV - OA = \$30,000 (12.29969)$$

$$FV - OA = \$368,991$$

BRIEF EXERCISE 6-14



$$PV - OA = \$25,000 (PVF - OA_{12-4, 8\%})$$

$$PV - OA = \$25,000 (PVF - OA_{8, 8\%})(PVF_{4, 8\%})$$

OR

$$PV - OA = \$25,000 (7.53608 - 3.31213)$$

$$PV - OA = \$25,000 (5.74664)(.73503)$$

$$PV - OA = \$105,599$$

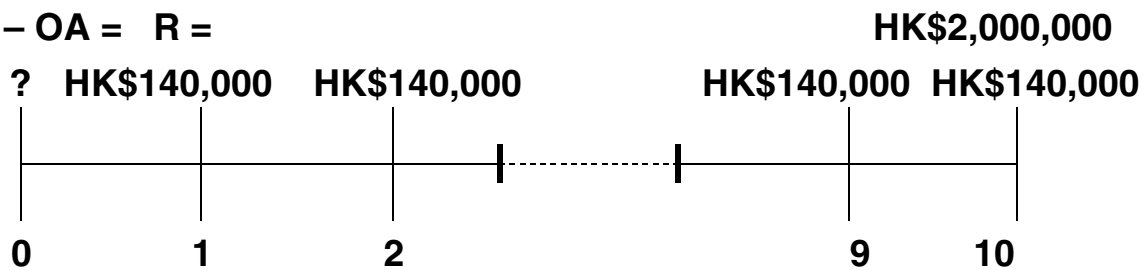
$$PV - OA = \$105,599$$

BRIEF EXERCISE 6-15

$$i = 8\%$$

$$PV = ?$$

$$PV - OA = R =$$



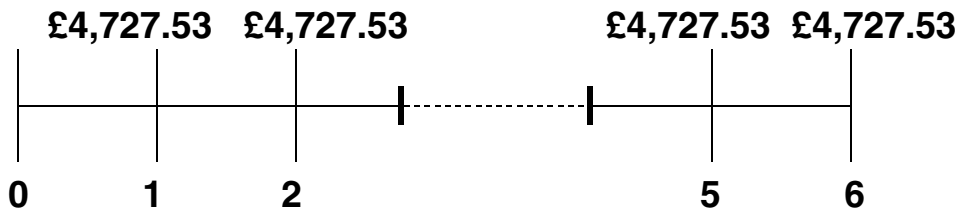
$$\text{HK\$2,000,000 (PVF}_{10, 8\%}) = \text{HK\$2,000,000 (.46319)} = \text{HK\$ 926,380}$$

$$\text{HK\$140,000 (PVF - OA}_{10, 8\%}) = \text{HK\$140,000 (6.71008)} \quad \underline{\quad 939,411 \quad}$$

$$\underline{\underline{\text{HK\$1,865,791}}}$$

BRIEF EXERCISE 6-16

$$PV - OA = \text{£20,000}$$



$$\text{£20,000} = \text{£4,727.53 (PV - OA}_{6, i\%})$$

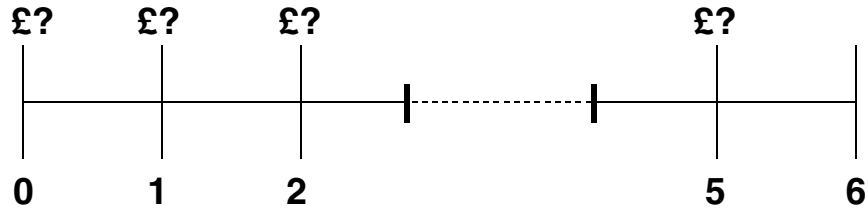
$$\text{(PV - OA}_{6, i\%}) = \text{£20,000} \div \text{£4,727.53}$$

$$\text{(PV - OA}_{6, i\%}) = 4.23054$$

$$\text{Therefore, } i\% = 11$$

BRIEF EXERCISE 6-17

PV – AD = £20,000



$$\text{£20,000} = \text{Payment (PV – AD}_{6, 11\%})$$

$$\text{£20,000} \div (\text{PV – AD}_{6, 11\%}) = \text{Payment}$$

$$\text{£20,000} \div 4.6959 = \text{£4,259.03}$$

SOLUTIONS TO EXERCISES

EXERCISE 6-1 (5–10 minutes)

| | | (a) <u>Rate of Interest</u> | (b) <u>Number of Periods</u> |
|----|----|--------------------------------|---------------------------------|
| 1. | a. | 9% | 9 |
| | b. | 2% | 20 |
| | c. | 5% | 30 |
| 2. | a. | 9% | 25 |
| | b. | 4% | 30 |
| | c. | 3% | 28 |

EXERCISE 6-2 (5–10 minutes)

| | | |
|-----|---------------------------------------------------------------------------------|--------------------|
| (a) | Simple interest of \$2,400 (\$30,000 X 8%) per year X 8 | \$19,200 |
| | Principal | <u>30,000</u> |
| | Total withdrawn | <u>\$49,200</u> |
| (b) | Interest compounded annually—Future value of 1 @ 8% for 8 periods | 1.85093 |
| | | X <u>\$30,000</u> |
| | Total withdrawn | <u>\$55,527.90</u> |
| (c) | Interest compounded semiannually—Future value of 1 @ 4% for 16 periods | 1.87298 |
| | | X <u>\$30,000</u> |
| | Total withdrawn | <u>\$56,189.40</u> |

EXERCISE 6-3 (10–15 minutes)

- (a) €9,000 X 1.46933 = €13,223.97.
- (b) €9,000 X .43393 = €3,905.37.
- (c) €9,000 X 31.77248 = €285,952.32.
- (d) €9,000 X 12.46221 = €112,159.89.

EXERCISE 6-4 (15–20 minutes)

- (a) Future value of an ordinary annuity of \$5,000 a period for 20 periods at 8%
Factor $(1 + .08)$
Future value of an annuity due of \$5,000 a period at 8%
- | | |
|---------------------|----------------------|
| \$228,809.80 | (\$5,000 X 45.76196) |
| <u>X 1.08</u> | |
| <u>\$247,114.58</u> | |
- (b) Present value of an ordinary annuity of \$2,500 for 30 periods at 10%
Factor $(1 + .10)$
Present value of annuity due of \$2,500 for 30 periods at 10%
- | | |
|--------------------|--------------------------------------------|
| \$23,567.28 | (\$2,500 X 9.42691) |
| <u>X 1.10</u> | |
| <u>\$25,924.00</u> | (Or see Table 6-5 which gives \$25,924.03) |
- (c) Future value of an ordinary annuity of \$2,000 a period for 15 periods at 10%
Factor $(1 + .10)$
Future value of an annuity due of \$2,000 a period for 15 periods at 10%
- | | |
|--------------------|----------------------|
| \$63,544.96 | (\$2,000 X 31.77248) |
| <u>X 1.10</u> | |
| <u>\$69,899.46</u> | |
- (d) Present value of an ordinary annuity of \$3,000 for 6 periods at 9%
Factor $(1 + .09)$
Present value of an annuity due of \$3,000 for 6 periods at 9%
- | | |
|--------------------|---------------------|
| \$13,457.76 | (\$3,000 X 4.48592) |
| <u>X 1.09</u> | |
| <u>\$14,668.96</u> | (Or see Table 6-5) |

EXERCISE 6-5 (10–15 minutes)

- (a) $\$50,000 \times 4.96764 = \$248,382.$
- (b) $\$50,000 \times 8.31256 = \$415,628.$
- (c) $(\$50,000 \times 3.03735 \times .50663) = \$76,940.63.$
or $(5.65022 - 4.11141) \times \$50,000 = \$76,940.50$ (difference of \$.13 due to rounding).

EXERCISE 6-6 (15–20 minutes)

- (a) Future value of ¥1,200,000 @ 10% for 10 years
(¥1,200,000 X 2.59374) = ¥ 3,112,488
- (b) Future value of an ordinary annuity of W620,000
at 10% for 15 years (~~W~~620,000 X 31.77248) W19,698,937.00
Deficiency (~~W~~20,000,000 – ~~W~~19,698,937) W 301,063.00

- (c) R\$75,000 discounted at 8% for 10 years:
R\$75,000 X .46319 = R\$ 34,739.25

Accept the bonus of R\$40,000 now.

(Also, consider whether the 8% is an appropriate discount rate since the president can probably earn compound interest at a higher rate without too much additional risk.)

EXERCISE 6-7 (12–17 minutes)

- (a) \$100,000 X .31524 = \$ 31,524.00
+ \$10,000 X 8.55948 = 85,594.80
\$117,118.80
- (b) \$100,000 X .23939 = \$ 23,939.00
+ \$10,000 X 7.60608 = 76,060.80
\$ 99,999.80

The answer should be \$100,000; the above computation is off by 20¢ due to rounding.

- (c) \$100,000 X .18270 = \$18,270.00
+ \$10,000 X 6.81086 = 68,108.60
\$86,378.60

EXERCISE 6-8 (10–15 minutes)

- (a) Present value of an ordinary annuity of 1
for 4 periods @ 8%
Annual withdrawal
Required fund balance on June 30, 2013

$$\begin{array}{r} 3.31213 \\ \times \$25,000 \\ \hline \$82,803.25 \end{array}$$

- (b) Fund balance at June 30, 2013
Future value of an ordinary annuity at 8%
for 4 years

$$\frac{\$82,803.25}{4.50611} = \$18,375.77$$

Amount of each of four contributions is \$18,375.77

EXERCISE 6-9 (5–10 minutes)

The rate of interest is determined by dividing the future value by the present value and then finding the factor in the FVF table with $n = 2$ that approximates that number:

$$\$118,810 = \$100,000 (\text{FVF}_{2, i\%})$$

$$\$118,810 \div \$100,000 = (\text{FVF}_{2, i\%})$$

$$1.1881 = (\text{FVF}_{2, i\%}) \text{—reading across the } n = 2 \text{ row reveals that } i = 9\%.$$

Note: This problem can also be solved using present value tables.

EXERCISE 6-10 (10–15 minutes)

- (a) The number of interest periods is calculated by first dividing the future value of \$1,000,000 by \$148,644, which is 6.72748—the value \$1.00 would accumulate to at 10% for the unknown number of interest periods. The factor 6.72748 or its approximate is then located in the Future Value of 1 Table by reading down the 10% column to the 20-period line; thus, 20 is the unknown number of years Chopra must wait to become a millionaire.
- (b) The unknown interest rate is calculated by first dividing the future value of \$1,000,000 by the present investment of \$239,392, which is 4.17725—the amount \$1.00 would accumulate to in 15 years at an unknown interest rate. The factor or its approximate is then located in the Future Value of 1 Table by reading across the 15-period line to the 10% column; thus, 10% is the interest rate Elvira must earn on her investment to become a millionaire.

EXERCISE 6-11 (10–15 minutes)

- (a) Total interest = Total payments—Amount owed today
 $€155,820 (10 \times €15,582) - €100,000 = €55,820$.
- (b) Rossi should borrow from the bank, since the 8% rate is lower than the manufacturer's 9% rate determined below.

$$\begin{aligned} PV - OA_{10, i\%} &= €100,000 \div €15,582 \\ &= 6.41766 \text{—Inspection of the 10 period row reveals a rate} \\ &\text{of 9\%.} \end{aligned}$$

EXERCISE 6-12 (10–15 minutes)

Building A—PV = \$610,000.

Building B—

$$\begin{aligned} \text{Rent X (PV of annuity due of 25 periods at 12\%)} &= PV \\ \$70,000 \times 8.78432 &= PV \\ \$614,902.40 &= PV \end{aligned}$$

Building C—

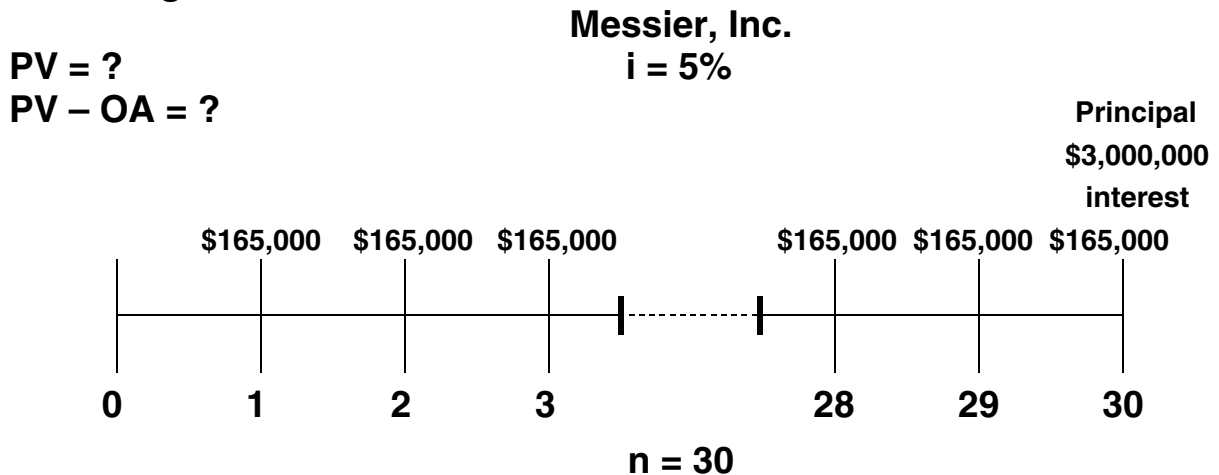
$$\begin{aligned} \text{Rent X (PV of ordinary annuity of 25 periods at 12\%)} &= PV \\ \$6,000 \times 7.84314 &= PV \\ \$47,058.84 &= PV \end{aligned}$$

| | |
|---------------------|---------------------|
| Cash purchase price | \$650,000.00 |
| PV of rental income | <u>– 47,058.84</u> |
| Net present value | <u>\$602,941.16</u> |

Answer: Lease Building C since the present value of its net cost is the smallest.

EXERCISE 6-13 (15–20 minutes)

Time diagram:



Formula for the interest payments:

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$165,000 (PVF - OA_{30, 5\%})$$

$$PV - OA = \$165,000 (15.37245)$$

$$PV - OA = \underline{\underline{\$2,536,454}}$$

Formula for the principal:

$$PV = FV (PVF_{n, i})$$

$$PV = \$3,000,000 (PVF_{30, 5\%})$$

$$PV = \$3,000,000 (0.23138)$$

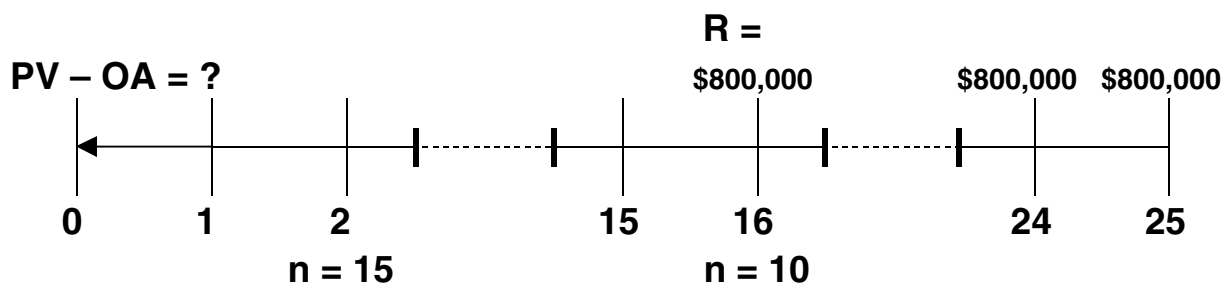
$$PV = \underline{\underline{\$694,140}}$$

The selling price of the bonds = $\$2,536,454 + \$694,140 = \$3,230,594$.

EXERCISE 6-14 (15–20 minutes)

Time diagram:

$$i = 8\%$$



Formula: $PV - OA = R (PVF - OA_{n, i})$

$$PV - OA = \$800,000 (PVF - OA_{25-15, 8\%})$$

$$PV - OA = \$800,000 (10.67478 - 8.55948)$$

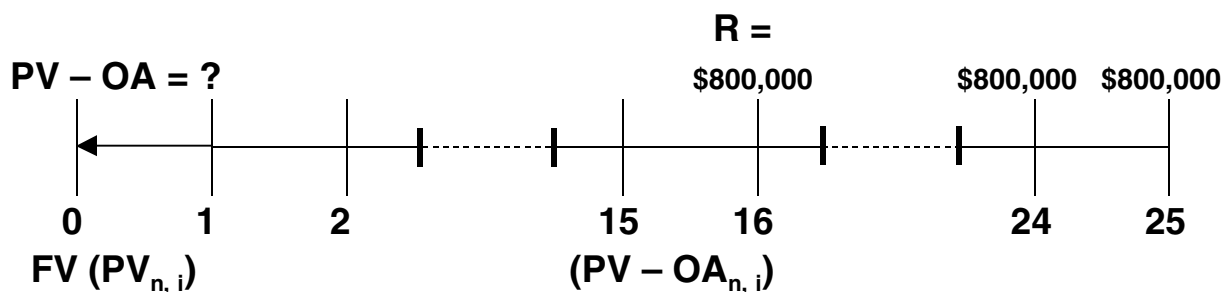
$$PV - OA = \$800,000 (2.11530)$$

$$PV - OA = \underline{\underline{\$1,692,240}}$$

OR

Time diagram:

$$i = 8\%$$



EXERCISE 6-14 (Continued)

- (i) Present value of the expected annual pension payments at the end of the 10th year:

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$800,000 (PVF - OA_{10, 8\%})$$

$$PV - OA = \$800,000 (6.71008)$$

$$PV - OA = \underline{\underline{\$5,368,064}}$$

- (ii) Present value of the expected annual pension payments at the beginning of the current year:

$$PV = FV (PVF_{n, i})$$

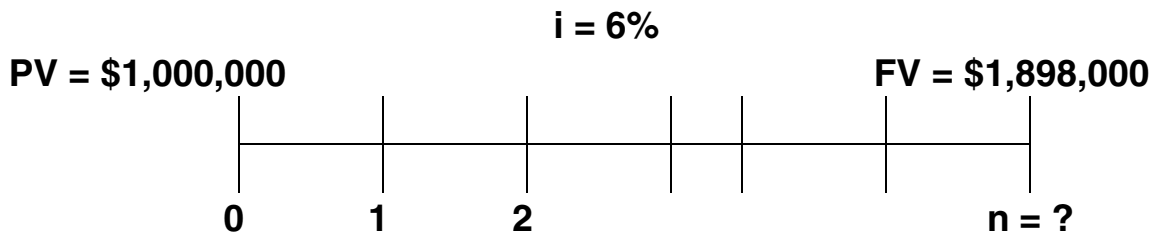
$$PV = \$5,368,064 (PVF_{15, 8\%})$$

$$PV = \$5,368,064 (0.31524)$$

$$PV = \underline{\underline{\$1,692,228^*}}$$

*\$12 difference due to rounding.

The company's pension obligation (liability) is \$1,692,228.

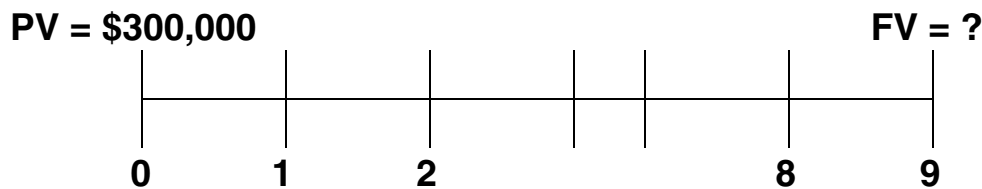
EXERCISE 6-15 (15–20 minutes)**(a)**

$$\text{FVF}_{(n, 6\%)} = \$1,898,000 \div \$1,000,000$$

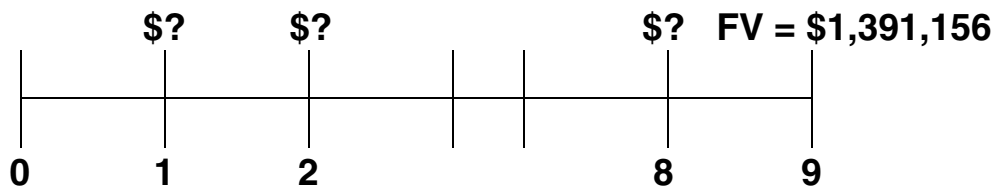
$$= 1.898$$

reading down the 6% column, 1.898 corresponds to 11 periods.

(b) By setting aside \$300,000 now, Lee can gradually build the fund to an amount to establish the foundation.



$$\begin{aligned} \text{FV} &= \$300,000 (\text{FVF}_{9, 6\%}) \\ &= \$300,000 (1.68948) \\ &= \$506,844 \text{—Thus, the amount needed from the annuity:} \\ &\quad \$1,898,000 - \$506,844 = \$1,391,156. \end{aligned}$$

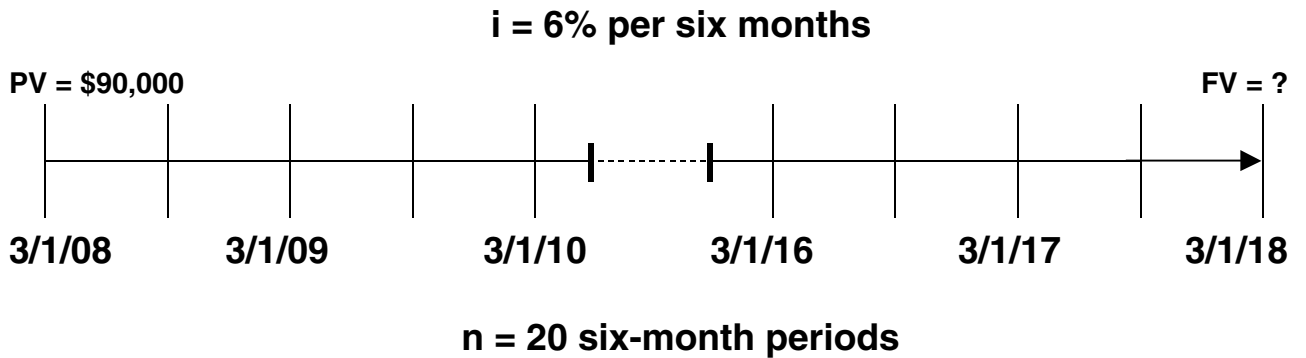


$$\begin{aligned} \text{Payments} &= \text{FV} \div (\text{FV} - \text{OA}_{9, 6\%}) \\ &= \$1,391,156 \div 11.49132 \\ &= \$121,061.46. \end{aligned}$$

EXERCISE 6-16 (10–15 minutes)

Amount to be repaid on March 1, 2018.

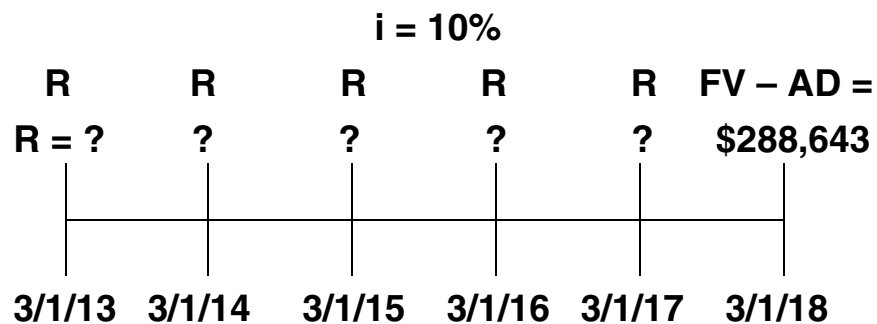
Time diagram:



Formula: $FV = PV (FVF_{n, i})$
 $FV = \$90,000 (FVF_{20, 6\%})$
 $FV = \$90,000 (3.20714)$
 $FV = \underline{\underline{\$288,643}}$

Amount of annual contribution to debt retirement fund.

Time diagram:

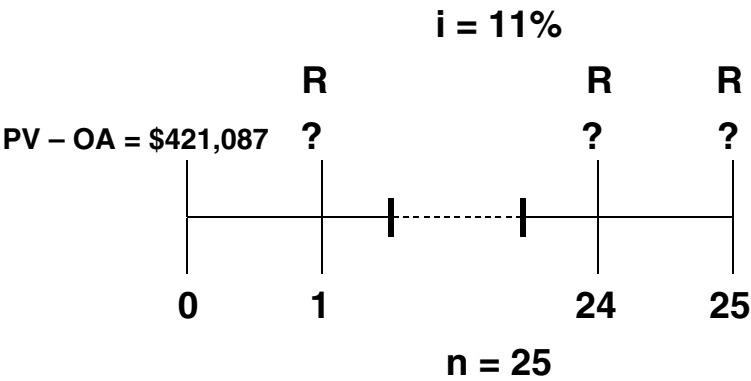


EXERCISE 6-16 (Continued)

| | | |
|----|---------------------------------------------------------------------|------------------|
| 1. | Future value of ordinary annuity of 1 for 5 periods at 10% | 6.10510 |
| 2. | Factor (1 + .10) | X <u>1.10000</u> |
| 3. | Future value of an annuity due of 1 for 5 periods at 10% | <u>6.71561</u> |
| 4. | Periodic rent (\$288,643 ÷ 6.71561) | <u>\$42,981</u> |

EXERCISE 6-17 (10–15 minutes)

Time diagram:

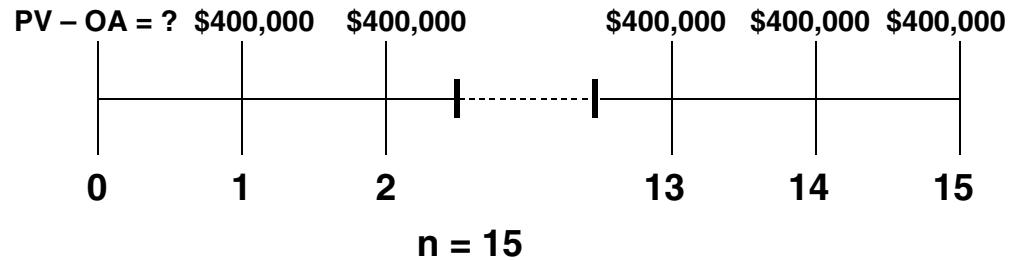


Formula: $PV - OA = R (PVF - OA_{n, i})$
 $\$421,087 = R (PVF - OA_{25, 11\%})$
 $\$421,087 = R (8.42174)$
 $R = \$421,087 \div 8.42174$
 $R = \underline{\underline{\$50,000}}$

EXERCISE 6-18 (10–15 minutes)

Time diagram:

$$i = 8\%$$



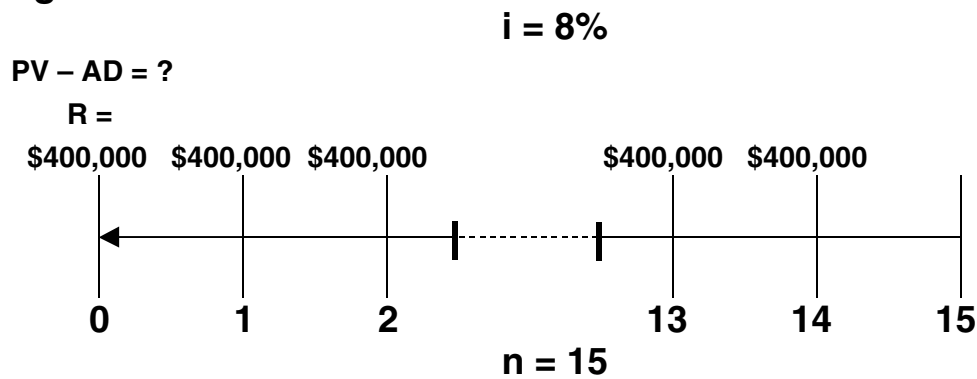
Formula:

$$PV - OA = R (PVF - OA_{n, i})$$
$$PV - OA = \$400,000 (PVF - OA_{15, 8\%})$$
$$PV - OA = \$400,000 (8.55948)$$
$$R = \underline{\underline{\$3,423,792}}$$

The recommended method of payment would be the 15 annual payments of \$400,000, since the present value of those payments (\$3,423,792) is less than the alternative immediate cash payment of \$3,500,000.

EXERCISE 6-19 (10–15 minutes)

Time diagram:



Formula:

Using Table 6-4

$$PV - AD = R (PVF - OA_{n, i})$$

$$PV - AD = \$400,000 (8.55948 \times 1.08)$$

$$PV - AD = \$400,000 (9.24424)$$

$$PV - AD = \underline{\underline{\$3,697,696}}$$

Using Table 6-5

$$PV - AD = R (PVF - AD_{n, i})$$

$$PV - AD = \$400,000 (PVF - AD_{15, 8\%})$$

$$PV - AD = \$400,000 (9.24424)$$

$$PV - AD = \underline{\underline{\$3,697,696}}$$

The recommended method of payment would be the immediate cash payment of \$3,500,000, since that amount is less than the present value of the 15 annual payments of \$400,000 (\$3,697,696).

EXERCISE 6-20 (15–20 minutes)

| | Cash Flow Estimate | X | Probability Assessment | = | Expected Cash Flow |
|-----|-------------------------|---|---------------------------|---|--------------------------|
| (a) | £4,800 | | 20% | | £ 960 |
| | 6,300 | | 50% | | 3,150 |
| | 7,500 | | 30% | | <u>2,250</u> |
| | Total Expected Value | | | | <u>£6,360</u> |
| (b) | £5,400 | | 30% | | £1,620 |
| | 7,200 | | 50% | | 3,600 |
| | 8,400 | | 20% | | <u>1,680</u> |
| | Total Expected Value | | | | <u>£6,900</u> |
| (c) | £(1,000) | | 10% | | £ (100) |
| | 3,000 | | 80% | | 2,400 |
| | 5,000 | | 10% | | <u>500</u> |
| | Total Expected Value | | | | <u>£2,800</u> |

EXERCISE 6-21 (10–15 minutes)

| Estimated Cash Outflow | X | Probability Assessment | = | Expected Cash Flow | |
|------------------------------|---|---------------------------|---|-----------------------|----------------------|
| \$200 | | 10% | | \$ 20 | |
| 450 | | 30% | | 135 | |
| 600 | | 50% | | 300 | |
| 750 | | 10% | | <u>75</u> | |
| | | | | | X PV |
| | | | | | Factor, |
| | | | | | n = 2, i = 6% |
| | | | | | Present Value |
| | | | | | <u>\$ 530</u> X 0.89 |
| | | | | | <u>\$471.70</u> |

EXERCISE 6-22 (15–20 minutes)

- (a) This exercise determines the present value of an ordinary annuity or expected cash flows as a fair value estimate.

| <u>Cash flow</u> <u>Estimate</u> | <u>X</u> | <u>Probability</u> <u>Assessment</u> | <u>Expected</u> <u>= Cash Flow</u> | |
|-------------------------------------|----------|-----------------------------------------|---------------------------------------|-------------------------------|
| \$ 380,000 | | 20% | \$ 76,000 | |
| 630,000 | | 50% | 315,000 | |
| 750,000 | | 30% | <u>225,000</u> | X PV – OA |
| | | | | Factor, |
| | | | | n = 8, I = 8% Present Value |
| | | | <u>\$ 616,000</u> | X 5.74664 <u>\$ 3,539,930</u> |

The fair value estimate of the trade name exceeds the carrying value; thus, no impairment is recorded.

- (b) This fair value is based on unobservable inputs—Killroy’s own data on the expected future cash flows associated with the trade name. This fair value estimate is considered Level 3.

TIME AND PURPOSE OF PROBLEMS

Problem 6-1 (Time 15–20 minutes)

Purpose—to present an opportunity for the student to determine how to use the present value tables in various situations. Each of the situations presented emphasizes either a present value of 1 or a present value of an ordinary annuity situation. Two of the situations will be more difficult for the student because a zero-interest-bearing note and bonds are involved.

Problem 6-2 (Time 15–20 minutes)

Purpose—to present an opportunity for the student to determine solutions to four present and future value situations. The student is required to determine the number of years over which certain amounts will accumulate, the rate of interest required to accumulate a given amount, and the unknown amount of periodic payments. The problem develops the student's ability to set up present and future value equations and solve for unknown quantities.

Problem 6-3 (Time 20–30 minutes)

Purpose—to present the student with an opportunity to determine the present value of the costs of competing contracts. The student is required to decide which contract to accept.

Problem 6-4 (Time 20–30 minutes)

Purpose—to present the student with an opportunity to determine the present value of two lottery payout alternatives. The student is required to decide which payout option to choose.

Problem 6-5 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to determine which of four insurance options results in the largest present value. The student is required to determine the present value of options which include the immediate receipt of cash, an ordinary annuity, an annuity due, and an annuity of changing amounts. The student must also deal with interest compounded quarterly. This problem is a good summary of the application of present value techniques.

Problem 6-6 (Time 25–30 minutes)

Purpose—to present an opportunity for the student to determine the present value of a series of deferred annuities. The student must deal with both cash inflows and outflows to arrive at a present value of net cash inflows. A good problem to develop the student's ability to manipulate the present value table factors to efficiently solve the problem.

Problem 6-7 (Time 30–35 minutes)

Purpose—to present the student an opportunity to use time value concepts in business situations. Some of the situations are fairly complex and will require the student to think a great deal before answering the question. For example, in one situation a student must discount a note and in another must find the proper interest rate to use in a purchase transaction.

Problem 6-8 (Time 20–30 minutes)

Purpose—to present the student with an opportunity to determine the present value of an ordinary annuity and annuity due for three different cash payment situations. The student must then decide which cash payment plan should be undertaken.

Time and Purpose of Problems (Continued)

Problem 6-9 (Time 30–35 minutes)

Purpose—to present the student with the opportunity to work three different problems related to time value concepts: purchase versus lease, determination of fair value of a note, and appropriateness of taking a cash discount.

Problem 6-10 (Time 30–35 minutes)

Purpose—to present the student with the opportunity to assess whether a company should purchase or lease. The computations for this problem are relatively complicated.

Problem 6-11 (Time 25–30 minutes)

Purpose—to present the student an opportunity to apply present value to retirement funding problems, including deferred annuities.

Problem 6-12 (Time 20–25 minutes)

Purpose—to provide the student an opportunity to explore the ethical issues inherent in applying time value of money concepts to retirement plan decisions.

Problem 6-13 (Time 20–25 minutes)

Purpose—to present the student an opportunity to compute expected cash flows and then apply present value techniques to determine a warranty liability.

Problem 6-14 (Time 20–25 minutes)

Purpose—to present the student an opportunity to compute expected cash flows and then apply present value techniques to determine the fair value of an asset.

Problems 6-15 (Time 20–25 minutes)

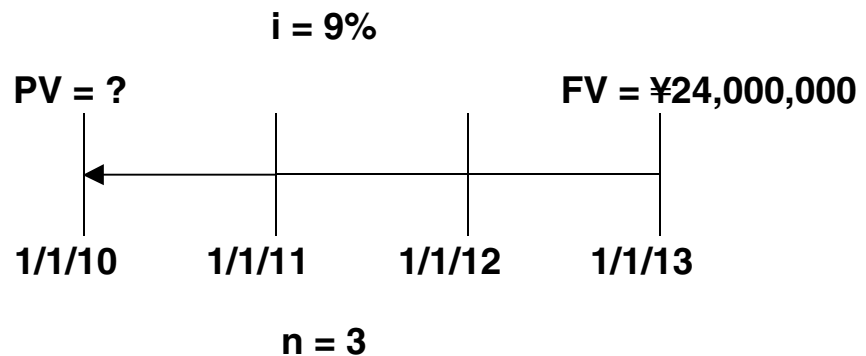
Purpose—to present the student an opportunity to estimate fair value by computing expected cash flows and then applying present value techniques to value an environmental liability.

SOLUTIONS TO PROBLEMS

PROBLEM 6-1

- (a) Given no established value for the building, the fair market value of the note would be estimated to value the building.

Time diagram:

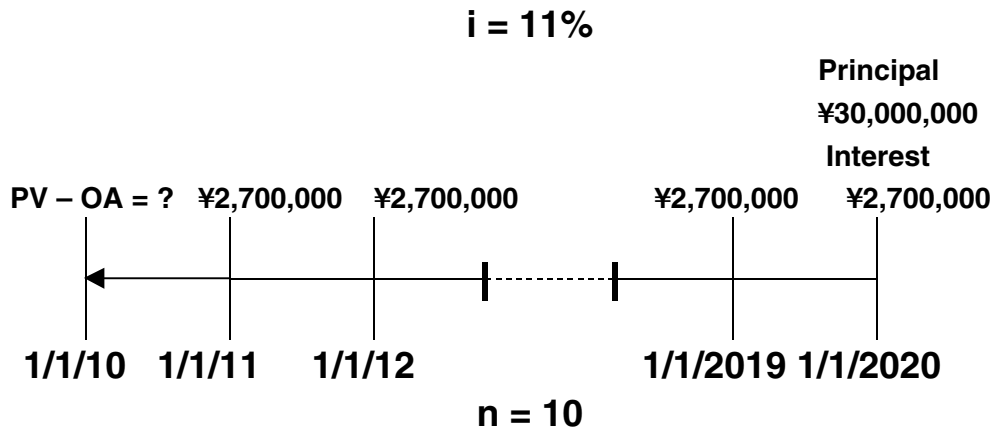


Formula: $PV = FV (PVF_{n, i})$
 $PV = ¥24,000,000 (PVF_{3, 9\%})$
 $PV = ¥24,000,000 (.77218)$
 $PV = \underline{¥18,532,320}$

| | |
|---------------------------------------------------|--------------------|
| Cash equivalent price of building..... | ¥18,532,320 |
| Less: Book value (¥25,000,000 – ¥10,000,000)..... | <u>15,000,000</u> |
| Gain on disposal of the building | <u>¥ 3,532,320</u> |

PROBLEM 6-1 (Continued)

(b) Time diagram:



Present value of the principal

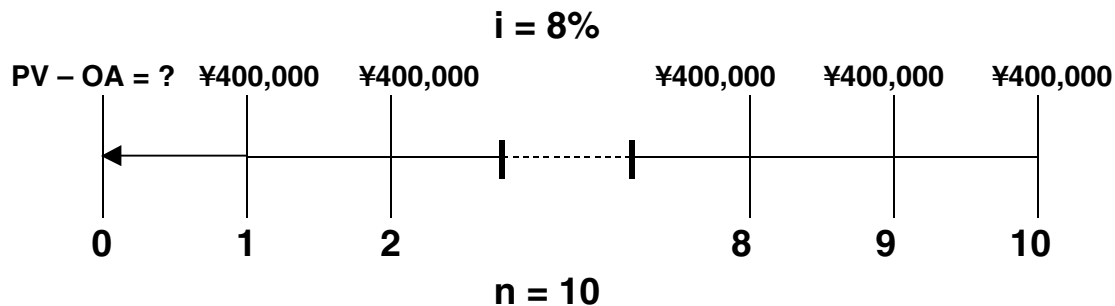
$$FV (PVF_{10, 11\%}) = ¥30,000,000 (.35218) \dots\dots\dots = ¥10,565,400$$

Present value of the interest payments

$$R (PVF - OA_{10, 11\%}) = ¥2,700,000 (5.88923) \dots\dots\dots = \underline{15,900,921}$$

$$\text{Combined present value (purchase price)} \dots\dots\dots \underline{\underline{¥26,466,321}}$$

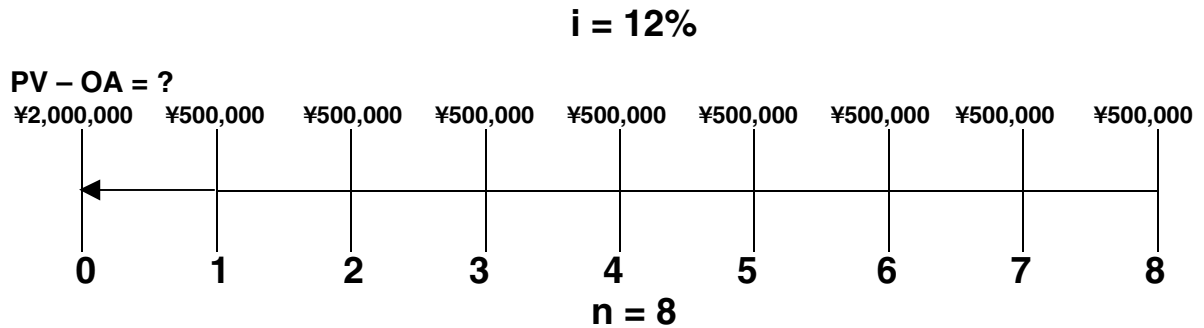
(c) Time diagram:



Formula: $PV - OA = R (PVF - OA_{n,i})$
 $PV - OA = ¥400,000 (PVF - OA_{10, 8\%})$
 $PV - OA = ¥400,000 (6.71008)$
 $PV - OA = \underline{\underline{¥2,684,032}}$ (cost of machine)

PROBLEM 6-1 (Continued)

(d) Time diagram:



Formula: $PV - OA = R (PVF - OA_{n,i})$

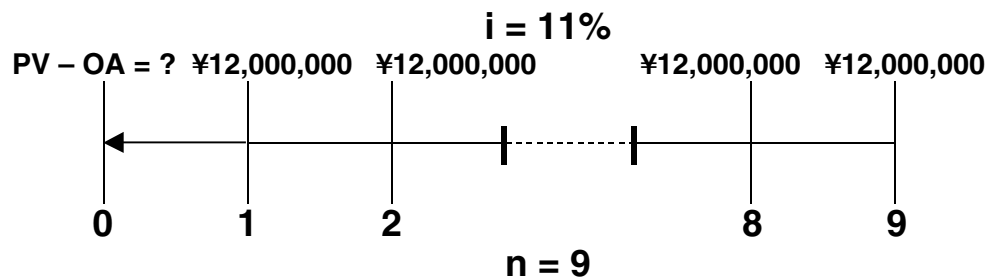
$$PV - OA = ¥500,000 (PVF - OA_{8, 12\%})$$

$$PV - OA = ¥500,000 (4.96764)$$

$$PV - OA = \underline{\underline{¥2,483,820}}$$

$$\text{Cost of tractor} = ¥2,000,000 + ¥2,483,820 = \underline{\underline{¥4,483,820}}$$

(e) Time diagram:



Formula: $PV - OA = R (PVF - OA_{n,i})$

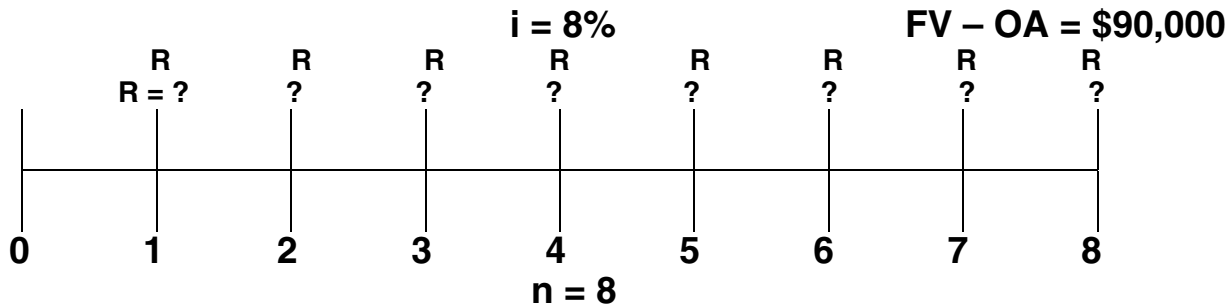
$$PV - OA = ¥12,000,000 (PVF - OA_{9, 11\%})$$

$$PV - OA = ¥12,000,000 (5.53705)$$

$$PV - OA = \underline{\underline{¥66,444,600}}$$

PROBLEM 6-2

(a) Time diagram:



Formula: $FV - OA = R (FVF - OA_{n,i})$

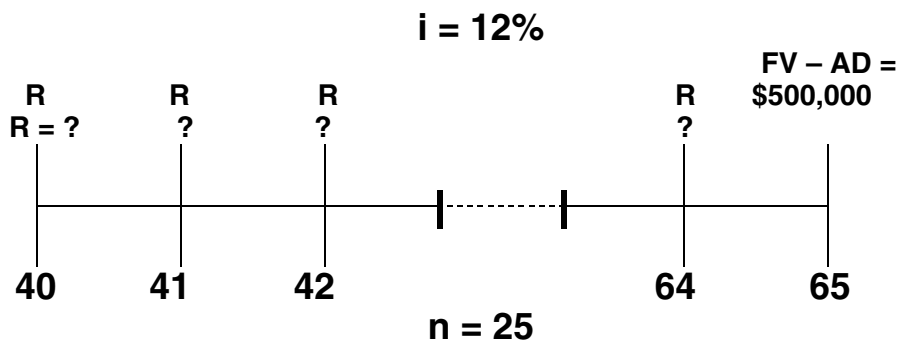
$$\$90,000 = R (FVF - OA_{8, 8\%})$$

$$\$90,000 = R (10.63663)$$

$$R = \$90,000 \div 10.63663$$

$$R = \underline{\underline{\$8,461.33}}$$

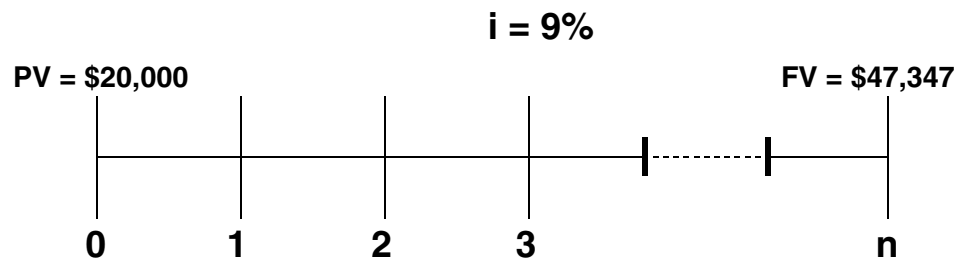
(b) Time diagram:



PROBLEM 6-2 (Continued)

| | |
|----------------------------------------------------------------------------|--------------------|
| 1. Future value of an ordinary annuity of 1 for 25 periods at 12% | 133.33387 |
| 2. Factor (1 + .12) | <u>X 1.1200</u> |
| 3. Future value of an annuity due of 1 for 25 periods at 12% | <u>149.33393</u> |
| 4. Periodic rent (\$500,000 ÷ 149.33393) | <u>\$ 3,348.20</u> |

(c) Time diagram:



Future value approach

$$FV = PV (FVF_{n, i})$$

$$\$47,347 = \$20,000 (FVF_{n, 9\%})$$

$$FVF_{n, 9\%} = \$47,347 \div \$20,000$$

$$= \underline{2.36735}$$

2.36735 is approximately the value of \$1 invested at 9% for 10 years.

Present value approach

$$PV = FV (PVF_{n, i})$$

$$\$20,000 = \$47,347 (PVF_{n, 9\%})$$

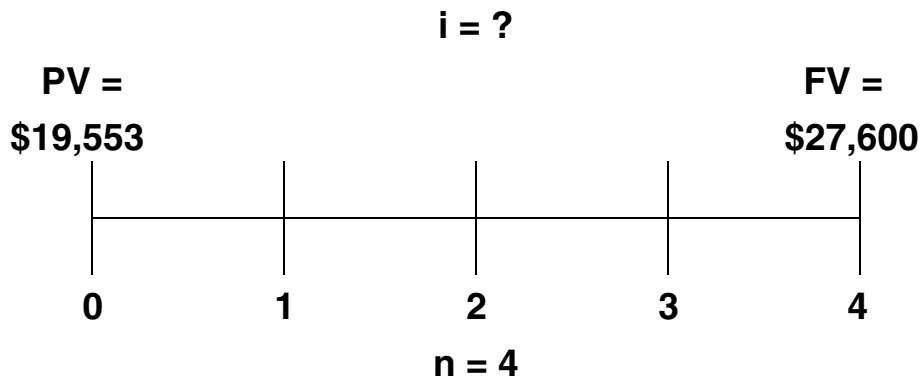
$$PVF_{n, 9\%} = \$20,000 \div \$47,347$$

$$= \underline{.42241}$$

.42241 is approximately the present value of \$1 discounted at 9% for 10 years.

PROBLEM 6-2 (Continued)

(d) Time diagram:



Future value approach

$$FV = PV (FVF_{n, i})$$

$$\$27,600 = \$19,553 (FVF_{4, i})$$

$$\begin{aligned} FVF_{4, i} &= \$27,600 \div \$19,553 \\ &= \underline{1.41155} \end{aligned}$$

1.41155 is the value of \$1
invested at 9% for 4 years.

Present value approach

$$PV = FV (PVF_{n, i})$$

or

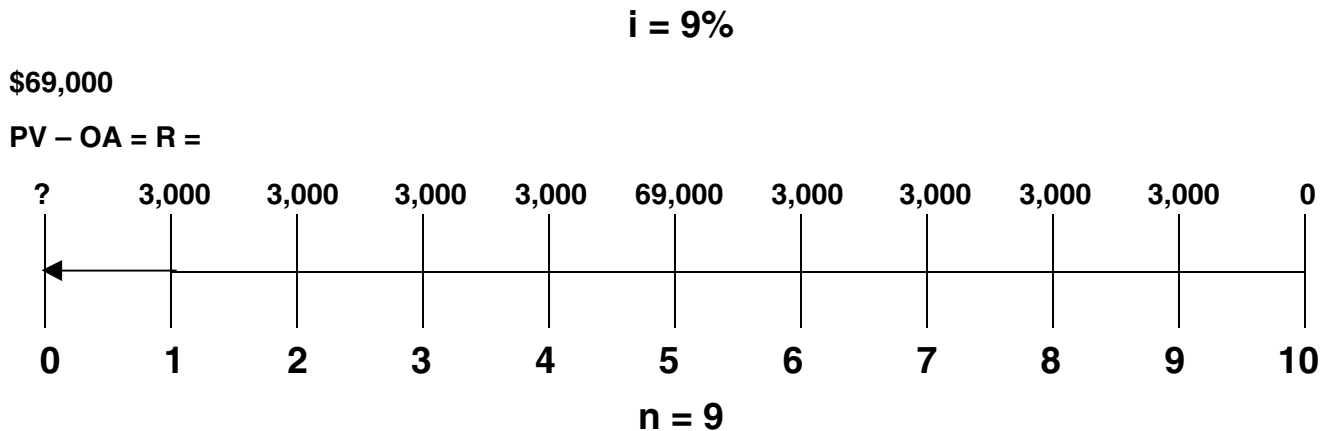
$$\$19,553 = \$27,600 (PVF_{4, i})$$

$$\begin{aligned} PVF_{4, i} &= \$19,553 \div \$27,600 \\ &= \underline{.70844} \end{aligned}$$

.70844 is the present value of \$1
discounted at 9% for 4 years.

PROBLEM 6-3

Time diagram (Bid A):



Present value of initial cost

$$12,000 \times \$5.75 = \underline{\$69,000} \text{ (incurred today).....} \quad \$ 69,000.00$$

Present value of maintenance cost (years 1–4)

$$12,000 \times \$0.25 = \underline{\$3,000}$$

$$R (PVF - OA_{4, 9\%}) = \$3,000 (3.23972)..... \quad 9,719.16$$

Present value of resurfacing

$$FV (PVF_{5, 9\%}) = \$69,000 (.64993) \quad 44,845.17$$

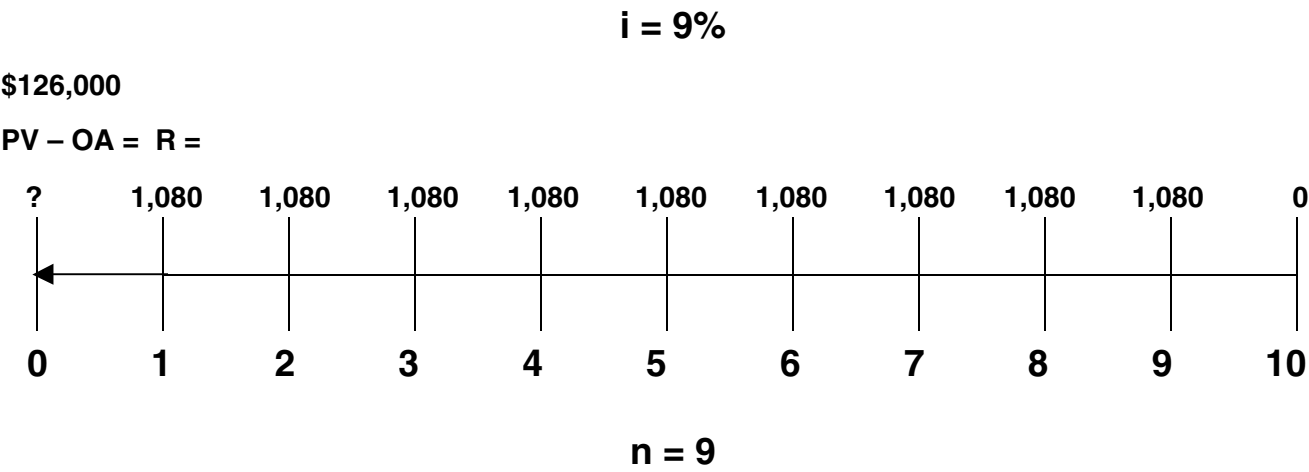
Present value of maintenance cost (years 6–9)

$$R (PVF - OA_{9-5, 9\%}) = \$3,000 (5.99525 - 3.88965) \quad \underline{6,316.80}$$

$$\text{Present value of outflows for Bid A} \quad \underline{\underline{\$129,881.13}}$$

PROBLEM 6-3 (Continued)

Time diagram (Bid B):



Present value of initial cost

| | |
|----------------------------------------------------|--------------|
| 12,000 X \$10.50 = \$126,000 (incurred today)..... | \$126,000.00 |
|----------------------------------------------------|--------------|

Present value of maintenance cost

| | |
|--------------------------------------------------------|-----------------|
| 12,000 X \$.09 = <u>\$1,080</u> | |
| R (PV – OA _{9, 9%}) = \$1,080 (5.99525)..... | <u>6,474.87</u> |

| | |
|-------------------------------------------|---------------------|
| Present value of outflows for Bid B | <u>\$132,474.87</u> |
|-------------------------------------------|---------------------|

Bid A should be accepted since its present value is lower.

| |
|--------------------|
| PROBLEM 6-4 |
|--------------------|

Lump sum alternative: Present Value = \$500,000 X (1 – .46) = \$270,000.

Annuity alternative: Payments = \$36,000 X (1 – .25) = \$27,000.

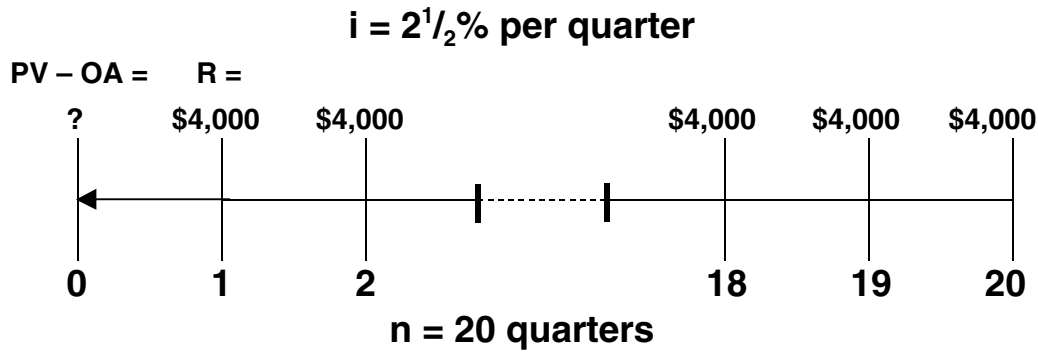
$$\begin{aligned}\text{Present Value} &= \text{Payments (PV – AD}_{20, 8\%}) \\ &= \$27,000 (10.60360) \\ &= \$286,297.20.\end{aligned}$$

Long should choose the annuity payout; its present value is \$16,297.20 greater.

PROBLEM 6-5

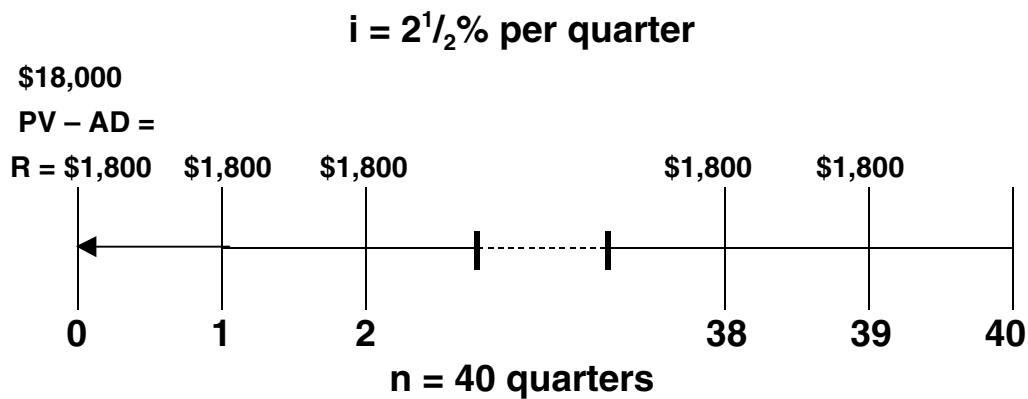
(a) The present value of \$55,000 cash paid today is \$55,000.

(b) Time diagram:



Formula: $PV - OA = R (PVF - OA_{n, i})$
 $PV - OA = \$4,000 (PVF - OA_{20, 2\frac{1}{2}\%})$
 $PV - OA = \$4,000 (15.58916)$
 $PV - OA = \underline{\underline{\$62,356.64}}$

(c) Time diagram:



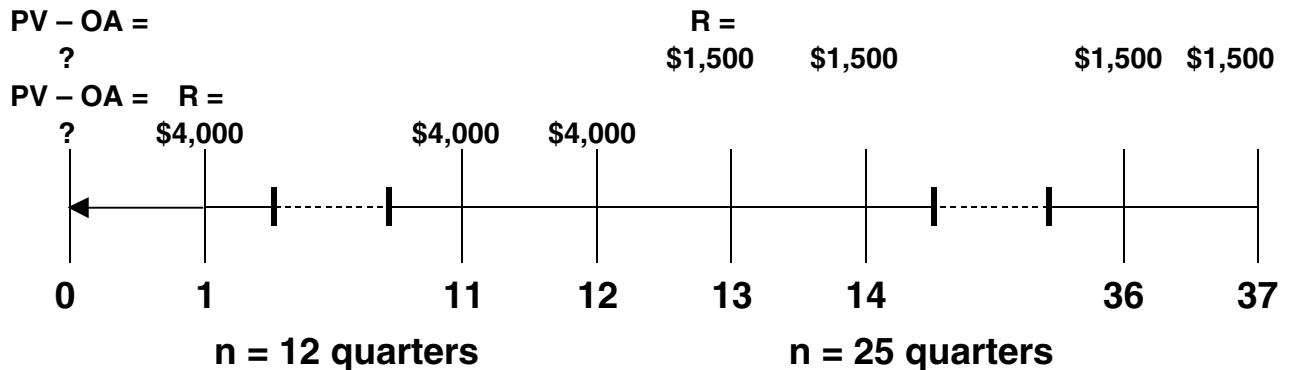
PROBLEM 6-5 (Continued)

$$\begin{aligned}
 \text{Formula: } PV - AD &= R (PVF - AD_{n,i}) \\
 PV - AD &= \$1,800 (PVF - AD_{40, 21/2\%}) \\
 PV - AD &= \$1,800 (25.73034) \\
 PV - AD &= \underline{\$46,314.61}
 \end{aligned}$$

The present value of option (c) is $\$18,000 + \$46,314.61$, or **\$64,314.61**.

(d) Time diagram:

$i = 2\frac{1}{2}\%$ per quarter



Formulas:

$$\begin{aligned}
 PV - OA &= R (PVF - OA_{n,i}) & PV - OA &= R (PVF - OA_{n,i}) \\
 PV - OA &= \$4,000 (PVF - OA_{12, 21/2\%}) & PV - OA &= \$1,500 (PVF - OA_{37-12, 21/2\%}) \\
 PV - OA &= \$4,000 (10.25776) & PV - OA &= \$1,500 (23.95732 - 10.25776) \\
 PV - OA &= \underline{\$41,031.04} & PV - OA &= \underline{\$20,549.34}
 \end{aligned}$$

The present value of option (d) is $\$41,031.04 + \$20,549.34$, or **\$61,580.38**.

PROBLEM 6-5 (Continued)

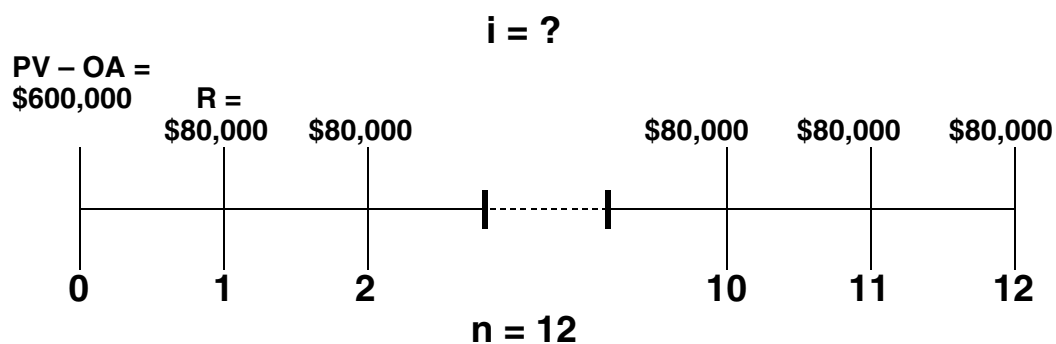
Present values:

- (a) \$55,000.**
- (b) \$62,356.64.**
- (c) \$64,314.61.**
- (d) \$61,580.38.**

Option (c) is the best option, based upon present values alone.

PROBLEM 6-7

(a) Time diagram (alternative one):



Formulas: $PV - OA = R (PVF - OA_{n, i})$

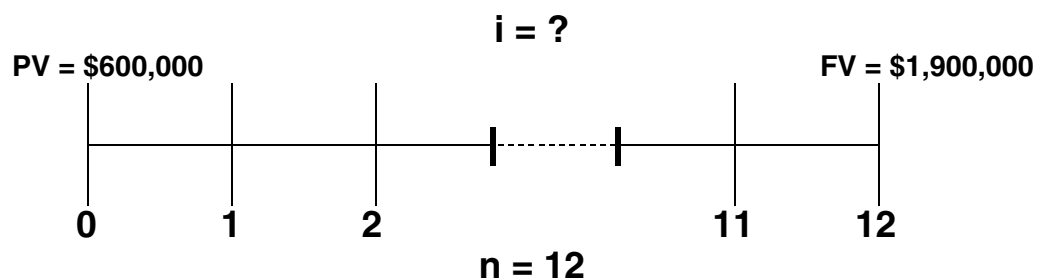
$$\$600,000 = \$80,000 (PVF - OA_{12, i})$$

$$PVF - OA_{12, i} = \$600,000 \div \$80,000$$

$$PVF - OA_{12, i} = \underline{7.50}$$

7.50 is the present value of an annuity of \$1 for 12 years discounted at approximately 8%.

Time diagram (alternative two):



PROBLEM 6-7 (Continued)

Future value approach

$$FV = PV (FVF_{n, i})$$

$$\$1,900,000 = \$600,000 (FVF_{12, i})$$

$$FVF_{12, i} = \$1,900,000 \div \$600,000$$

$$FVF_{12, i} = \underline{\underline{3.16667}}$$

3.16667 is the approximate future value of \$1 invested at 10% for 12 years.

Present value approach

$$PV = FV (PVF_{n, i})$$

or

$$\$600,000 = \$1,900,000 (PVF_{12, i})$$

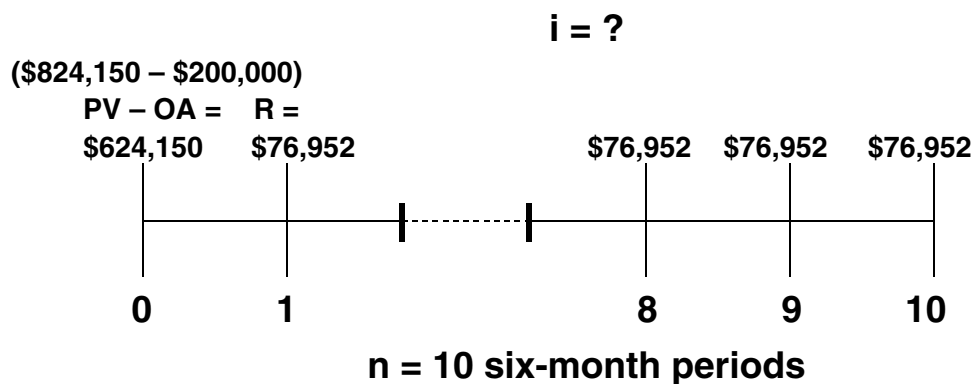
$$PVF_{12, i} = \$600,000 \div \$1,900,000$$

$$PVF_{12, i} = \underline{\underline{.31579}}$$

.31579 is the approximate present value of \$1 discounted at 10% for 12 years.

Dubois should choose alternative two since it provides a higher rate of return.

(b) Time diagram:



PROBLEM 6-7 (Continued)

Formulas: $PV - OA = R (PVF - OA_{n, i})$

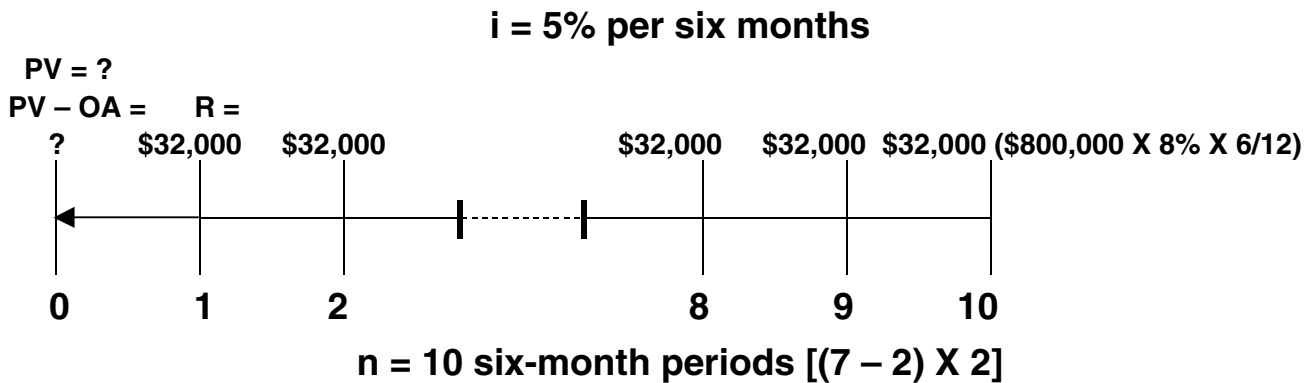
$$\$624,150 = \$76,952 (PVF - OA_{10, i})$$

$$PV - OA_{10, i} = \$624,150 \div \$76,952$$

$$PV - OA_{10, i} = \underline{8.11090}$$

8.11090 is the present value of a 10-period annuity of \$1 discounted at 4%. The interest rate is 4% semiannually, or 8% annually.

(c) Time diagram:



Formulas:

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$32,000 (PVF - OA_{10, 5\%})$$

$$PV - OA = \$32,000 (7.72173)$$

$$PV - OA = \underline{\$247,095.36}$$

$$PV = FV (PVF_{n, i})$$

$$PV = \$800,000 (PVF_{10, 5\%})$$

$$PV = \$800,000 (.61391)$$

$$PV = \underline{\$491,128}$$

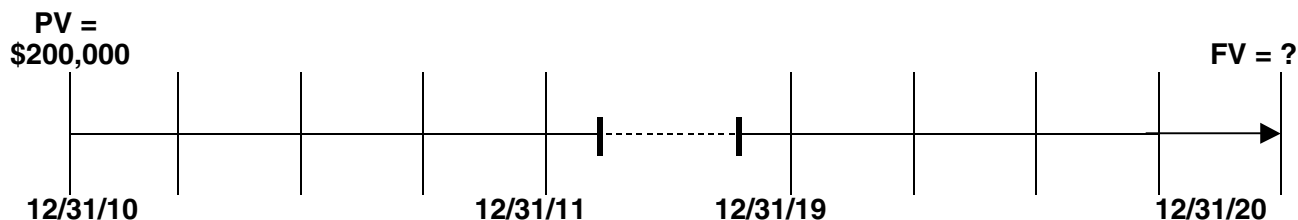
Combined present value (amount received on sale of note):

$$\$247,095.36 + \$491,128 = \underline{\$738,223.36}$$

PROBLEM 6-7 (Continued)

(d) Time diagram (future value of \$200,000 deposit)

$i = 2\frac{1}{2}\%$ per quarter



$n = 40$ quarters

Formula: $FV = PV (FVF_{n, i})$

$FV = \$200,000 (FVF_{40, 2\frac{1}{2}\%})$

$FV = \$200,000 (2.68506)$

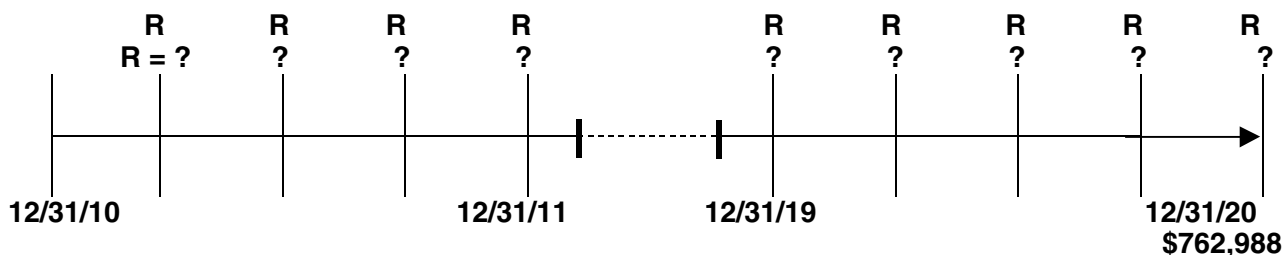
$FV = \underline{\underline{\$537,012}}$

Amount to which quarterly deposits must grow:

$\$1,300,000 - \$537,012 = \underline{\underline{\$762,988.}}$

Time diagram (future value of quarterly deposits)

$i = 2\frac{1}{2}\%$ per quarter



$n = 40$ quarters

PROBLEM 6-7 (Continued)

Formulas: $FV - OA = R (FVF - OA_{n, i})$

$$\$762,988 = R (FVF - OA_{40, 2 \frac{1}{2}\%})$$

$$\$762,988 = R (67.40255)$$

$$R = \$762,988 \div 67.40255$$

$$R = \underline{\underline{\$11,320}}$$

| |
|--------------------|
| PROBLEM 6-8 |
|--------------------|

Vendor A: \$18,000 payment
 X 6.14457 (PV of ordinary annuity 10%, 10 periods)
 \$110,602.26
 + 55,000.00 down payment
 + 10,000.00 maintenance contract
 \$175,602.26 total cost from Vendor A

Vendor B: \$9,500 semiannual payment
 X 18.01704 (PV of annuity due 5%, 40 periods)
 \$171,161.88

Vendor C: \$1,000
 X 3.79079 (PV of ordinary annuity of 5 periods, 10%)
 \$ 3,790.79 PV of first 5 years of maintenance

 \$2,000 [PV of ordinary annuity 15 per., 10% (7.60608) –
 X 3.81529 PV of ordinary annuity 5 per., 10% (3.79079)]
 \$ 7,630.58 PV of next 10 years of maintenance

 \$3,000 [(PV of ordinary annuity 20 per., 10% (8.51356) –
 X .90748 PV of ordinary annuity 15 per., 10% (7.60608)]
 \$ 2,722.44 PV of last 5 years of maintenance

Total cost of press and maintenance Vendor C:
 \$150,000.00 cash purchase price
 3,790.79 maintenance years 1–5
 7,630.58 maintenance years 6–15
 2,722.44 maintenance years 16–20
 \$164,143.81

The press should be purchased from Vendor C, since the present value of the cash outflows for this option is the lowest of the three options.

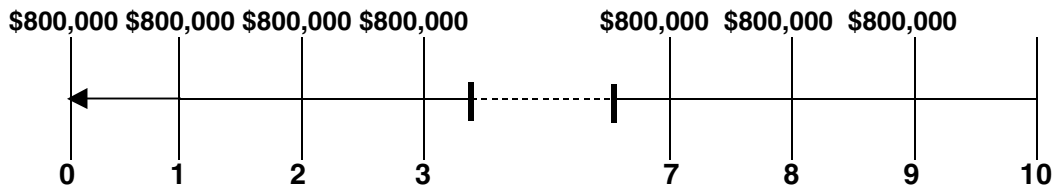
PROBLEM 6-9

(a) Time diagram for the first ten payments:

$$i = 10\%$$

$$PV-AD = ?$$

$$R =$$



$$n = 10$$

Formula for the first ten payments:

$$PV - AD = R (PVF - AD_{n, i})$$

$$PV - AD = \$800,000 (PVF - AD_{10, 10\%})$$

$$PV - AD = \$800,000 (6.75902)$$

$$PV - AD = \$5,407,216$$

Formula for the last ten payments:

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$400,000 (PVF - OA_{19 - 9, 10\%})$$

$$PV - OA = \$400,000 (8.36492 - 5.75902)$$

$$PV - OA = \$400,000 (2.6059)$$

$$PV - OA = \underline{\underline{\$1,042,360}}$$

Note: The present value of an ordinary annuity is used here, not the present value of an annuity due.

PROBLEM 6-9 (Continued)

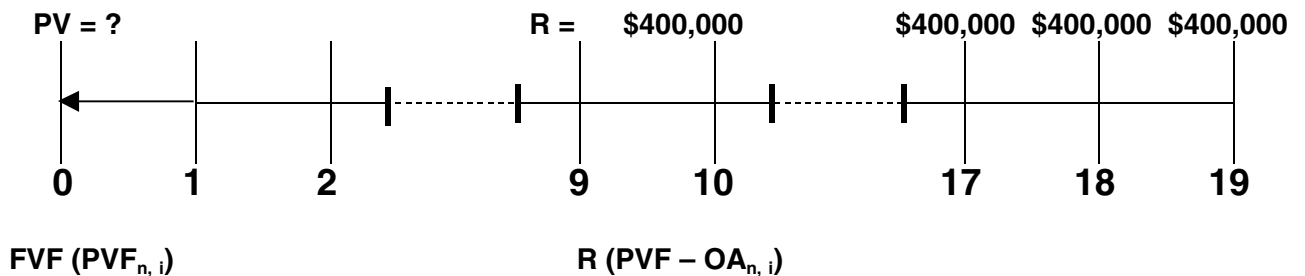
The total cost for leasing the facilities is:

$$\$5,407,216 + \$1,042,360 = \$6,449,576.$$

OR

Time diagram for the last ten payments:

$$i = 10\%$$



Formulas for the last ten payments:

(i) Present value of the last ten payments:

$$PV - OA = R (PVF - OA_{n,i})$$

$$PV - OA = \$400,000 (PVF - OA_{10, 10\%})$$

$$PV - OA = \$400,000 (6.14457)$$

$$PV - OA = \underline{\underline{\$2,457,828}}$$

PROBLEM 6-9 (Continued)

- (ii) Present value of the last ten payments at the beginning of current year:

$$PV = FV (PVF_{n, i})$$

$$PV = \$2,457,828 (PVF_{9, 10\%})$$

$$PV = \$2,457,828 (.42410)$$

$$PV = \underline{\underline{\$1,042,365^*}}$$

*\$5 difference due to rounding.

Cost for leasing the facilities $\$5,407,216 + \$1,042,365 = \underline{\underline{\$6,449,581}}$

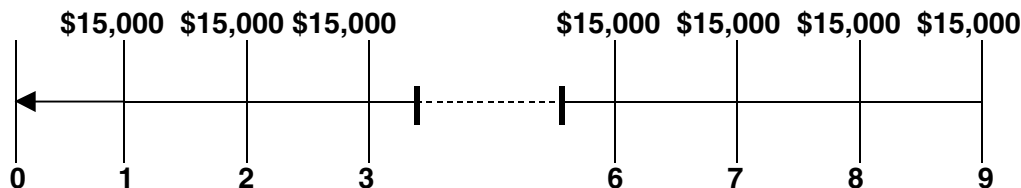
Since the present value of the cost for leasing the facilities, \$6,449,581, is less than the cost for purchasing the facilities, \$7,200,000, McDowell Enterprises should lease the facilities.

- (b) Time diagram:

$$i = 11\%$$

$$PV - OA = ?$$

$$R =$$



$$n = 9$$

PROBLEM 6-9 (Continued)

$$\text{Formula: } PV - OA = R (PVF - OA_{n, i})$$

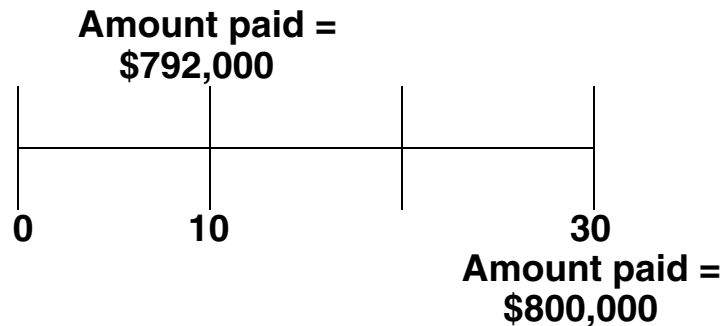
$$PV - OA = \$15,000 (PVF - OA_{9, 11\%})$$

$$PV - OA = \$15,000 (5.53705)$$

$$PV - OA = \underline{\$83,055.75}$$

The fair value of the note is \$83,055.75.

(c) Time diagram:



$$\text{Cash discount} = \$800,000 (1\%) = \$8,000$$

$$\text{Net payment} = \$800,000 - \$8,000 = \$792,000$$

If the company decides not to take the cash discount, then the company can use the \$792,000 for an additional 20 days. The implied interest rate for postponing the payment can be calculated as follows:

(i) Implied interest for the period from the end of discount period to the due date:

$$\frac{\text{Cash discount lost if not paid within the discount period}}{\text{Net payment being postponed}}$$

$$= \$8,000 / \$792,000$$

$$= 0.010101$$

PROBLEM 6-9 (Continued)

(ii) Convert the implied interest rate to annual basis:

$$\text{Daily interest} = 0.010101/20 = 0.000505$$

$$\text{Annual interest} = 0.000505 \times 365 = 18.43\%$$

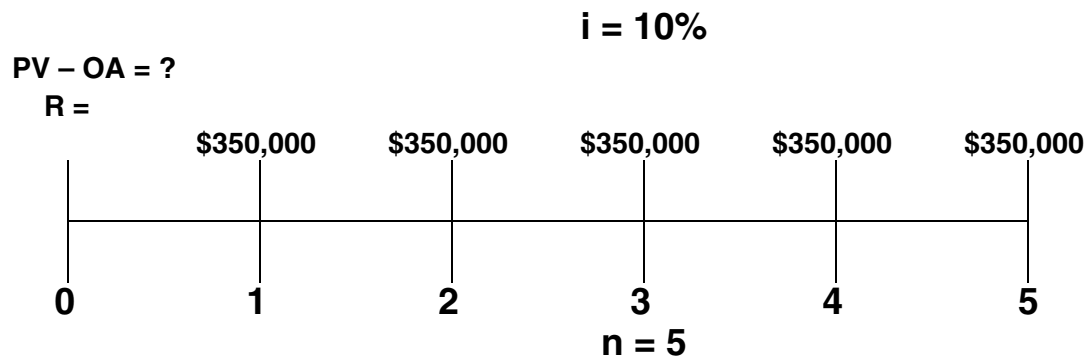
Since McDowell's cost of funds, 10%, is less than the implied interest rate for cash discount, 18.43%, it should continue the policy of taking the cash discount.

PROBLEM 6-10

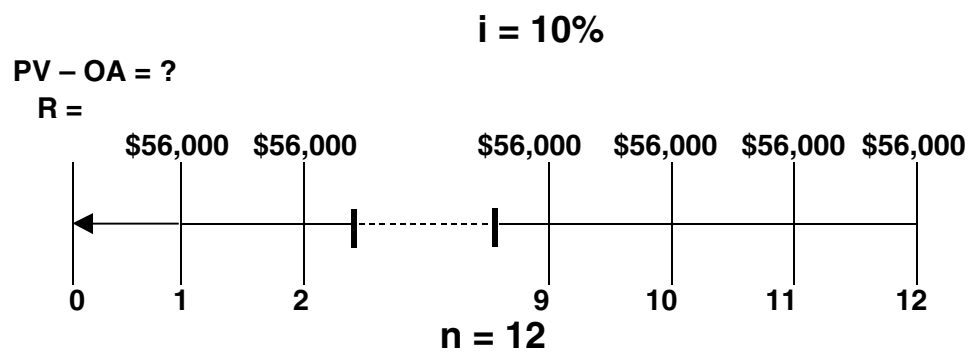
1. Purchase.

Time diagrams:

Installments

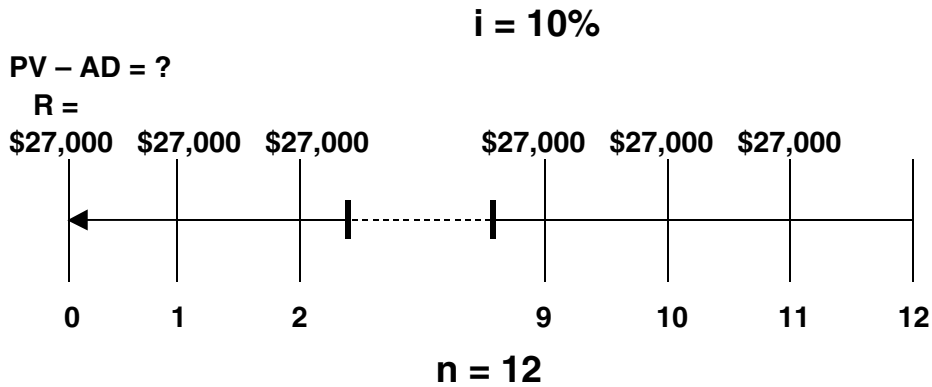


Property taxes and other costs

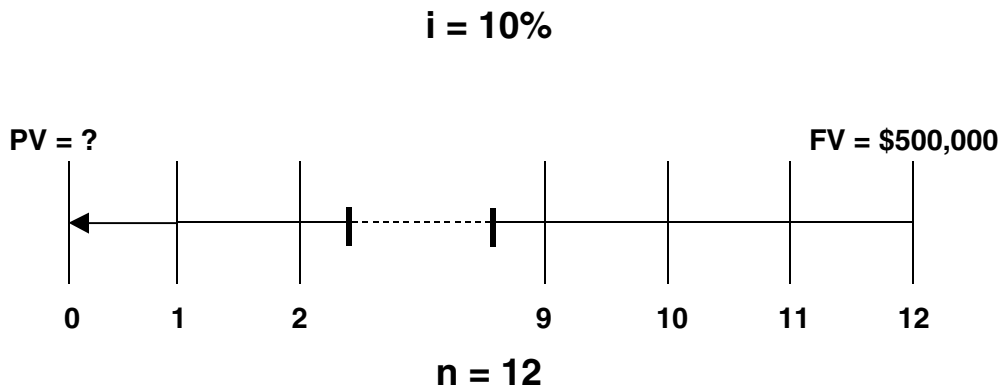


PROBLEM 6-10 (Continued)

Insurance



Residual Value



Formula for installments:

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$350,000 (PVF - OA_{5, 10\%})$$

$$PV - OA = \$350,000 (3.79079)$$

$$PV - OA = \underline{\underline{\$1,326,777}}$$

PROBLEM 6-10 (Continued)

Formula for property taxes and other costs:

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$56,000 (PVF - OA_{12, 10\%})$$

$$PV - OA = \$56,000 (6.81369)$$

$$PV - OA = \underline{\underline{\$381,567}}$$

Formula for insurance:

$$PV - AD = R (PVF - AD_{n, i})$$

$$PV - AD = \$27,000 (PVF - AD_{12, 10\%})$$

$$PV - AD = \$27,000 (7.49506)$$

$$PV - AD = \underline{\underline{\$202,367}}$$

Formula for residual value:

$$PV = FV (PVF_{n, i})$$

$$PV = \$500,000 (PVF_{12, 10\%})$$

$$PV = \$500,000 (0.31863)$$

$$PV = \underline{\underline{\$159,315}}$$

PROBLEM 6-10 (Continued)

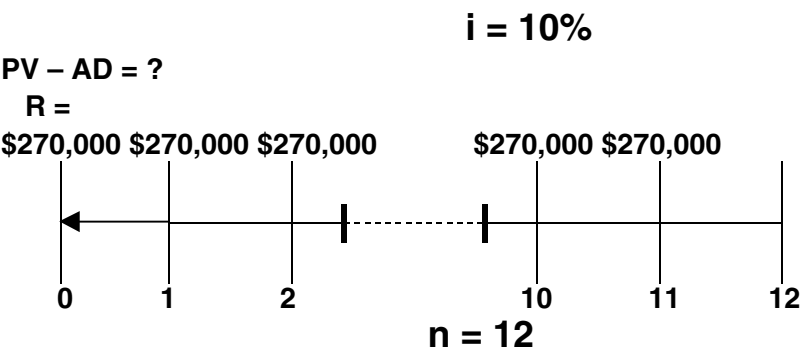
Present value of net purchase costs:

| | |
|--------------------------------------|--------------------|
| Down payment..... | \$ 400,000 |
| Installments | 1,326,777 |
| Property taxes and other costs | 381,567 |
| Insurance..... | <u>202,367</u> |
| Total costs | \$2,310,711 |
| Less: Salvage value..... | <u>159,315</u> |
| Net costs..... | <u>\$2,151,396</u> |

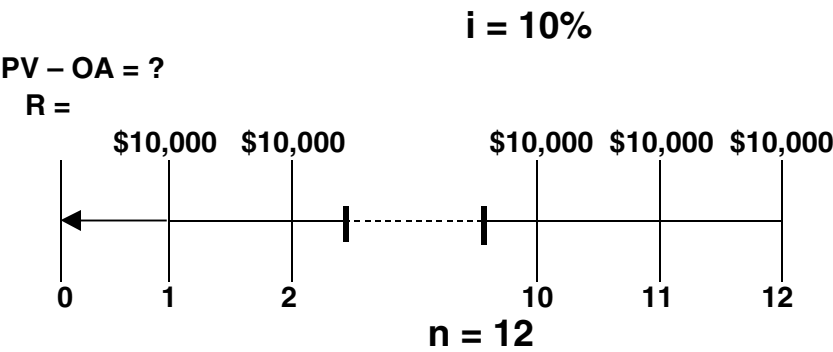
2. Lease.

Time diagrams:

Lease payments



Interest lost on the deposit



PROBLEM 6-10 (Continued)

Formula for lease payments:

$$PV - AD = R (PVF - AD_{n, i})$$

$$PV - AD = \$270,000 (PVF - AD_{12, 10\%})$$

$$PV - AD = \$270,000 (7.49506)$$

$$PV - AD = \underline{\$2,023,666}$$

Formula for interest lost on the deposit:

$$\text{Interest lost on the deposit per year} = \$100,000 (10\%) = \$10,000$$

$$PV - OA = R (PVF - OA_{n, i})$$

$$PV - OA = \$10,000 (PVF - OA_{12, 10\%})$$

$$PV - OA = \$10,000 (6.81369)$$

$$PV - OA = \underline{\$68,137^*}$$

$$\text{Cost for leasing the facilities} = \$2,023,666 + \$68,137 = \underline{\$2,091,803}$$

Dunn Inc. should lease the facilities because the present value of the costs for leasing the facilities, \$2,091,803, is less than the present value of the costs for purchasing the facilities, \$2,151,396.

$$*OR: \$100,000 - (\$100,000 \times .31863) = \underline{\$68,137}$$

| |
|---------------------|
| PROBLEM 6-11 |
|---------------------|

(a) Annual retirement benefits.

| | | | |
|----------------------------|----------------------------|--|-----------------------------------------------|
| Jean—current salary | \$ 48,000.00 | | |
| | X <u>2.56330</u> | | (future value of 1, 24 periods, 4%) |
| | 123,038.40 | | annual salary during last year of work |
| | X <u> .50</u> | | retirement benefit % |
| | <u>\$ 61,519.00</u> | | annual retirement benefit |

| | | | |
|-----------------------------|----------------------------|--|-----------------------------------------------|
| Colin—current salary | \$ 36,000.00 | | |
| | X <u>3.11865</u> | | (future value of 1, 29 periods, 4%) |
| | 112,271.40 | | annual salary during last year of work |
| | X <u> .40</u> | | retirement benefit % |
| | <u>\$ 44,909.00</u> | | annual retirement benefit |

| | | | |
|-----------------------------|----------------------------|--|-----------------------------------------------|
| Anita—current salary | \$ 18,000.00 | | |
| | X <u>2.10685</u> | | (future value of 1, 19 periods, 4%) |
| | 37,923.30 | | annual salary during last year of work |
| | X <u> .40</u> | | retirement benefit % |
| | <u>\$ 15,169.00</u> | | annual retirement benefit |

| | | | |
|-----------------------------|----------------------------|--|-----------------------------------------------|
| Gavin—current salary | \$ 15,000.00 | | |
| | X <u>1.73168</u> | | (future value of 1, 14 periods, 4%) |
| | 25,975.20 | | annual salary during last year of work |
| | X <u> .40</u> | | retirement benefit % |
| | <u>\$ 10,390.00</u> | | annual retirement benefit |

PROBLEM 6-11 (Continued)

(b) Fund requirements after 15 years of deposits at 12%.

Jean will retire 10 years after deposits stop.

| | |
|---------------------|-------------------------------------------------|
| \$ 61,519.00 | annual plan benefit |
| | [PV of an annuity due for 30 periods – PV of an |
| X 2.69356 | annuity due for 10 periods (9.02181 – 6.32825)] |
| <u>\$165,705.00</u> | |

Colin will retire 15 years after deposits stop.

| | |
|--------------------|---------------------------------------------------------|
| \$44,909.00 | annual plan benefit |
| X 1.52839 | [PV of an annuity due for 35 periods – PV of an annuity |
| | due for 15 periods (9.15656 – 7.62817)] |
| <u>\$68,638.00</u> | |

Anita will retire 5 years after deposits stop.

| | |
|--------------------|---------------------------------------------------------|
| \$15,169.00 | annual plan benefit |
| X 4.74697 | [PV of an annuity due for 25 periods – PV of an annuity |
| | due for 5 periods (8.78432 – 4.03735)] |
| <u>\$72,007.00</u> | |

Gavin will retire the beginning of the year after deposits stop.

| | |
|--------------------|---------------------------------------|
| \$10,390.00 | annual plan benefit |
| X 8.36578 | (PV of an annuity due for 20 periods) |
| <u>\$86,920.00</u> | |

PROBLEM 6-11 (Continued)

\$165,705.00 Jean

68,638.00 Colin

72,007.00 Anita

86,920.00 Gavin

\$393,270.00 Required fund balance at the end of the 15 years of deposits.

(c) Required annual beginning-of-the-year deposits at 12%:

Deposit X (future value of an annuity due for 15 periods at 12%) = FV

Deposit X (37.27972 X 1.12) = \$393,270.00

Deposit = \$393,270.00 ÷ 41.75329

Deposit = \$9,419.

PROBLEM 6-12

- (a) The time value of money would suggest that NET Life's discount rate is substantially higher than First Security's. The actuaries at NET Life are making different assumptions about inflation, employee turnover, life expectancy of the work force, future salary and wage levels, return on pension fund assets, etc. NET Life may operate at lower gross and net margins and it may provide fewer services.
- (b) As the controller of STL, Buhl assumes a fiduciary responsibility to the present and future retirees of the corporation. As a result, he is responsible for ensuring that the pension assets are adequately funded and are adequately protected from most controllable risks. At the same time, Buhl is responsible for the financial condition of STL. In other words, he is obligated to find ethical ways of increasing the profits of STL, even if it means switching pension funds to a less costly plan. At times, Buhl's role to retirees and his role to the corporation can be in conflict, especially if Buhl is a member of a professional group such as CAs, CPAs or CMAs.

(c) If STL switched to NET Life

The primary beneficiaries of Buhl's decision would be the corporation and its many shareholders by virtue of reducing £8 million of annual pension costs.

The present and future retirees of STL may be negatively affected by Buhl's decision because the chance of losing a future benefit may be increased by virtue of higher risks (as reflected in the discount rate and NET Life's weaker reputation).

If STL stayed with First Security

In the short run, the primary beneficiaries of Buhl's decision would be the employees and retirees of STL given the lower risk pension asset plan.

STL and its many stakeholders could be negatively affected by Buhl's decision to stay with First Security because of the company's inability to trim £8 million from its operating expenses.

| |
|---------------------|
| PROBLEM 6-13 |
|---------------------|

| Cash Flow | | Probability | Estimate X Assessment = Expected Cash Flow | | |
|------------------|----------------|--------------------|---------------------------------------------------|----------------------|---------------------------|
| 2011 | \$2,500 | 20% | \$ 500 | | |
| | 4,000 | 60% | 2,400 | | |
| | 5,000 | 20% | <u>1,000</u> | X PV | |
| | | | | Factor, | |
| | | | | n = 1, I = 5% | Present Value |
| | | | \$3,900 | 0.95238 | \$ 3,714.28 |
| 2012 | \$3,000 | 30% | \$ 900 | | |
| | 5,000 | 50% | 2,500 | | |
| | 6,000 | 20% | <u>1,200</u> | X PV | |
| | | | | Factor, | |
| | | | | n = 2, I = 5% | Present Value |
| | | | \$4,600 | 0.90703 | \$ 4,172.34 |
| 2013 | \$4,000 | 30% | \$1,200 | | |
| | 6,000 | 40% | 2,400 | | |
| | 7,000 | 30% | <u>2,100</u> | X PV | |
| | | | | Factor, | |
| | | | | n = 3, I = 5% | Present Value |
| | | | \$5,700 | 0.86384 | <u>\$ 4,923.89</u> |
| | | | Total Estimated Liability | | <u>\$12,810.51</u> |

| |
|---------------------|
| PROBLEM 6-14 |
|---------------------|

| | Cash Flow Estimate X | Probability Assessment = | Expected Cash Flow | | |
|--------------------------------------------------------|-------------------------|-----------------------------|----------------------|----------------------------------|------------------|
| 2011 | €6,000 | 40% | €2,400 | | |
| | 9,000 | 60% | <u>5,400</u> | X PV Factor, n = 1, I = 6% | Present Value |
| | | | €7,800 | 0.9434 | <u>€7,358.52</u> |
| 2012 | € (500) | 20% | € (100) | | |
| | 2,000 | 60% | 1,200 | | |
| | 4,000 | 20% | <u>800</u> | X PV Factor, n = 2, I = 6% | Present Value |
| | | | €1,900 | 0.89 | <u>€1,691.00</u> |
| Residual Value Received at the End of 2012 | € 500 | 50% | € 250 | | |
| | 900 | 50% | <u>450</u> | X PV Factor, n = 2, I = 6% | Present Value |
| | | | € 700 | 0.89 | <u>€ 623.00</u> |
| | | | Estimated Fair Value | | <u>€9,672.52</u> |

PROBLEM 6-15

- (a) The expected cash flows to meet the environmental liability represent a deferred annuity. Developing a fair value estimate requires determining the present value of the annuity of expected cash flows to be paid after 10 years and then determine the present value of that amount today.

| Cash Flow Estimate | Probability X Assessment | = Expected Cash Flow | |
|-----------------------|-----------------------------|----------------------|-------------------|
| \$15,000 | 10% | \$ 1,500 | |
| 22,000 | 30% | 6,600 | |
| 25,000 | 50% | 12,500 | |
| 30,000 | 10% | <u>3,000</u> | X PV – OA |
| | | | Factor, |
| | | | n = 3, I = 5% |
| | | | Present Value |
| | | | (deferred 10 yrs) |
| | | <u>\$23,600</u> | X 2.72325 |
| | | | <u>\$64,269</u> |

The value today of the annuity payments to commence in ten years is:

\$ 64,269 Present value of annuity
 X .61391 PV of a lump sum to be paid in 10 periods.
\$ 39,455

Alternatively, the present value of the deferred annuity can be computed as follows:

\$ 23,600 Expected cash outflows
 X 1.67184 [PV of an ordinary annuity for 13 periods – PV of an
 annuity due for 10 periods (9.39357 – 7.72173)]
\$ 39,455

- (b) This fair value estimate is based on unobservable inputs—Murphy's own data on the expected future cash flows associated with the obligation to restore the site. This fair value estimate is considered a Level 3 fair value estimate.

FINANCIAL REPORTING PROBLEM

(a) 1. Intangible assets, goodwill

For impairment of goodwill and other intangible assets, fair value is determined using a discounted cash flow analysis.

2. Retirement benefits

3. Borrowings

4. Share-based payments

(b) 1. The following rates are disclosed in the accompanying notes:

Retirement Benefits

Financial Assumptions

| | <u>2008</u> | <u>2007</u> |
|---------------|-------------|-------------|
| Discount rate | 6.8% | 5.3% |

Share-based Payments

| | <u>2008</u> | <u>2007</u> |
|----------------|-------------|-------------|
| Risk-free rate | 4.6%/4.6% | 5.4%/5.3% |

Intangible Assets

| | |
|-----------------------|------|
| Pre-tax discount rate | 9.5% |
|-----------------------|------|

FINANCIAL REPORTING PROBLEM (Continued)

Borrowings

Interest Rate Analysis

| | <u>2008</u> | <u>2007</u> |
|--------------------------------------|-------------|-------------|
| Committed and uncommitted borrowings | 5.5% | 4.8% |
| Medium term notes | 6.2% | 5.9% |
| Finance leases | 5.0% | 4.0% |
| Partnership liability | 5.7% | 5.3% |

2. There are different rates for various reasons:
- (1) The maturity dates—short-term vs. long-term.
 - (2) The security or lack of security for debts—mortgages and collateral vs. unsecured loans.
 - (3) Fixed rates and variable rates.
 - (4) Issuances of securities at different dates when differing market rates were in effect.
 - (5) Different risks involved or assumed.
 - (6) Foreign currency differences—some investments and payables are denominated in different currencies.

FINANCIAL STATEMENT ANALYSIS CASE

- (a) Cash inflows of \$375,000 less cash outflows of \$125,000 = Net cash flows of \$250,000.

$$\$250,000 \times 2.48685 \text{ (PVF} - \text{OA}_{3, 10\%}) = \underline{\underline{\$621,713}}$$

- (b) Cash inflows of \$275,000 less cash outflows of \$155,000 = Net cash flows of \$120,000.

$$\$120,000 \times 2.48685 \text{ (PVF} - \text{OA}_{3, 10\%}) = \underline{\underline{\$298,422}}$$

- (c) The estimate of future cash flows is very useful. It provides an understanding of whether the value of gas and oil properties is increasing or decreasing from year to year. Although it is an estimate, it does provide an understanding of the direction of change in value. Also, it can provide useful information to record a write-down of the assets.

ACCOUNTING

$$\begin{aligned} \text{(a)} \quad \$50,000 \times (\text{PVF} - \text{OA}_{10, ?\%}) &= \underline{\$320,883} \\ (\text{PVF} - \text{OA}_{10, ?\%}) &= 6.41766 \end{aligned}$$

From Table 6-4, the interest rate is 9% for each semi-annual period. The implicit annual interest rate is 2 X 9% or 18%.

(b) The note should be valued at its present value of \$320,883.

ANALYSIS

The note receivable consists of a fixed set of payments to be received. Therefore, if interest rates rise, the stream of payments will be worth less to Johnson. The fair value of the note receivable will decrease.

PRINCIPLES

Regulators are commonly faced with the relevance-faithful presentation trade-off. Many believe that fair values provide more relevant information because fair values provide current information as to what the value of an asset or liabilities. However, the determination of fair value may involve many assumptions such that the faithful representation of the measure suffers. Measurements of historical costs on the other hand are considered a faithful representation because the amount is based on an actual transaction. However, the relevance of historical costs decrease as the transaction is further removed.

- (a) The components of present value measurement include the following elements that together capture the economic differences between assets (IAS 36, paragraph A1):**
 - (a) an estimate of the future cash flow, or in more complex cases, series of future cash flows the entity expects to derive from the asset;**
 - (b) expectations about possible variations in the amount or timing of those cash flows;**
 - (c) the time value of money, represented by the current market risk-free rate of interest;**
 - (d) the price for bearing the uncertainty inherent in the asset; and**
 - (e) other, sometimes unidentifiable, factors (such as illiquidity) that market participants would reflect in pricing the future cash flows the entity expects to derive from the asset.**
- (b) Accounting applications of present value have traditionally used a single set of estimated cash flows and a single discount rate, often described as ‘the rate commensurate with the risk’. In effect, the traditional approach assumes that a single discount rate convention can incorporate all the expectations about the future cash flows and the appropriate risk premium. Therefore, the traditional approach places most of the emphasis on selection of the discount rate. (IAS 36, paragraph A4).**

The expected cash flow approach is, in some situations, a more effective measurement tool than the traditional approach. In developing a measurement, the expected cash flow approach uses all expectations about possible cash flows instead of the single most likely cash flow. For example, a cash flow might be CU100, CU200 or CU300 with probabilities of 10 per cent, 60 per cent and 30 per cent, respectively. The expected cash flow is CU220. The expected cash flow approach thus differs from the traditional approach by focusing on direct analysis of the cash flows in question and on more explicit statements of the assumptions used in the measurement. (IAS 36, paragraph A7).

PROFESSIONAL RESEARCH (Continued)

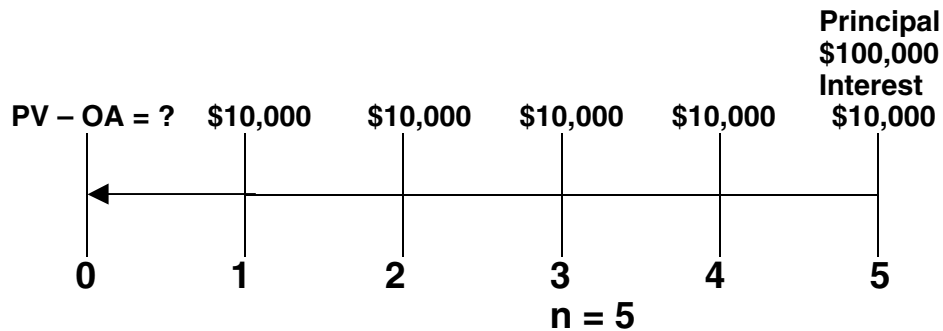
- (c) When an asset-specific rate is not directly available from the market, an entity uses surrogates to estimate the discount rate. The purpose is to estimate, as far as possible, a market assessment of:**
- (a) the time value of money for the periods until the end of the asset's useful life; and**
 - (b) factors (b), (d) and (e) described in paragraph A1, to the extent those factors have not caused adjustments in arriving at estimated cash flows.**

(IAS 36, paragraph A16).

PROFESSIONAL SIMULATION

Measurement

$i = 12\%$



Present value of the principal

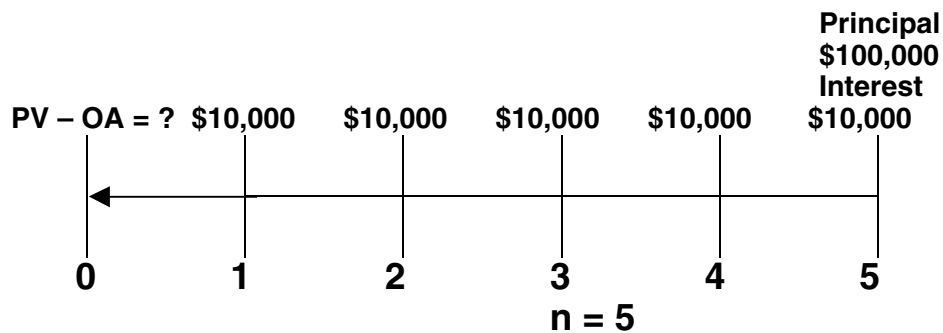
$$FV (PVF_{5, 12\%}) = \$100,000 (.56743) = \$56,743.00$$

Present value of the interest payments

$$R (PVF - OA_{5, 12\%}) = \$10,000 (3.60478) = \underline{36,047.80}$$

$$\text{Combined present value (Proceeds)} = \underline{\underline{\$92,790.80}}$$

$i = 8\%$



Present value of the principal

$$FV (PVF_{5, 8\%}) = \$100,000 (.68058) = \$ 68,058.00$$

Present value of the interest payments

$$R (PVF - OA_{5, 8\%}) = \$10,000 (3.99271) = \underline{39,927.10}$$

$$\text{Combined present value (Proceeds)} = \underline{\underline{\$107,985.10}}$$

PROFESSIONAL SIMULATION (Continued)

12%

Inputs:512?−10000−10000

N

I

PV

PMT

FV

Answer:92,790.45

8%

Inputs:58?−10000−10000

N

I

PV

PMT

FV

Answer:107,985.42

Valuation

| | A | B | C | D | E | F | G |
|----|----------------------------|---------------|--------------------------------------------------------------------------|----------------------------|-------------------------|------------------------------------------------------------------------|---|
| 1 | | | | | | | |
| 2 | Bond Amortization Schedule | | | | | | |
| 3 | | | | | | | |
| 4 | Date | Cash Interest | Interest Expense | Bond Discount Amortization | Carrying Value of Bonds | The following formula is entered in the cells in this column: =+C6-B6. | |
| 5 | Year 0 | | | | \$92,790.45 | | |
| 6 | Year 1 | 10,000.00 | \$11,134.85 | \$1,134.85 | 93,925.30 | | |
| 7 | Year 2 | 10,000.00 | 11,271.04 | 1,271.04 | 95,196.34 | The following formula is entered in the cells in this column: =+E5+D6 | |
| 8 | Year 3 | 10,000.00 | 11,423.56 | 1,423.56 | 96,619.90 | | |
| 9 | Year 4 | 10,000.00 | 11,594.39 | 1,594.39 | 98,214.29 | | |
| 10 | Year 5 | 10,000.00 | 11,785.71 | 1,785.71 | 100,000.00 | | |
| 11 | | | | | | | |
| 12 | | | The following formula is entered in the cells in this column: =+E5*0.12. | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |

CHAPTER 7

Cash and Receivables

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|-----------------------------------------------------|-----------------------------------------------------------|--------------------|-------------------------------------|---------------|-----------------------|
| 1. Accounting for cash. | 1, 2, 3, 4, 20, 23, 24, 25 | 1 | 1, 2 | 1 | |
| 2. Accounts receivable: recognition and valuation. | 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 21, 23, 24, 25 | 2, 3, 4, 5, 8 | 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15 | 2, 3, 4, 5, 6 | 1, 2, 3, 4, 5, 10, 11 |
| 3. Notes receivable: recognition and valuation. | 14, 15, 16, 17, 26 | 6, 7, 9 | 13, 19, 20 | 8, 9, 10 | 6, 7, 8, 9 |
| 4. Assignment and factoring of accounts receivable. | 18, 19, 20 | 10, 11, 12, 13, 14 | 12, 14, 15, 16, 17, 18, 22 | 7, 11 | 4, 6, 8 |
| 5. Analysis of receivables. | 22 | 15 | 21, 22 | 1 | |
| 6. Convergence. | 27, 28 | | | | |
| *7. Petty cash and bank reconciliations. | 27 | 16, 17, 18 | 23, 24, 25, 26 | 12, 13, 14 | |
| *8. Loan impairments. | 12, 28 | 19 | 27, 28 | 15 | |

*This material is covered in an Appendix to the chapter.

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|-----------------------------------------------------------------------------|-----------------------|--------------------------------|---------------|
| 1. Identify items considered cash. | 1 | 1, 2 | |
| 2. Indicate how to report cash and related items. | | | 1 |
| 3. Define receivables and identify the different types of receivables. | | 3, 4 | 6 |
| 4. Explain accounting issues related to recognition of accounts receivable. | 2, 3 | 3, 4, 5, 6, 12 | 6 |
| 5. Explain accounting issues related to valuation of accounts receivable. | 4, 5, 8 | 7, 8, 9, 10, 11, 12, 15 | 2, 3, 4, 5, 6 |
| 6. Explain accounting issues related to recognition of notes receivable. | 6, 7 | 19, 20 | 8, 9, 10 |
| 7. Explain accounting issues related to valuation of notes receivable. | | 19, 20 | 10 |
| 8. Understand special topics related to receivables. | 9, 10, 11, 12, 13, 14 | 12, 13, 14, 15, 16, 17, 18, 22 | 7, 11 |
| 9. Describe how to report and analyze receivables. | 15 | 21, 22 | 11 |
| *10. Explain common techniques employed to control cash. | 16, 17, 18 | 23, 24, 25, 26 | 12, 13, 14 |
| *11. Describe the accounting for a loan impairment. | 19 | 27, 28 | 15 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|------------------------------------------------------|---------------------|----------------|
| E7-1 | Determine cash balance. | Moderate | 10–15 |
| E7-2 | Determine cash balance. | Moderate | 10–15 |
| E7-3 | Financial statement presentation of receivables. | Simple | 10–15 |
| E7-4 | Determine ending accounts receivable. | Simple | 10–15 |
| E7-5 | Recording sales gross and net. | Simple | 15–20 |
| E7-6 | Recording sales transactions. | Moderate | 5–10 |
| E7-7 | Recording bad debts. | Moderate | 10–15 |
| E7-8 | Recording bad debts. | Simple | 5–10 |
| E7-9 | Computing bad debts and preparing journal entries. | Simple | 8–10 |
| E7-10 | Bad-debt reporting. | Simple | 10–12 |
| E7-11 | Bad debts—aging. | Simple | 8–10 |
| E7-12 | Journalizing various receivable transactions. | Simple | 15–20 |
| E7-13 | Fair value option. | Moderate | 10–15 |
| E7-14 | Assigning accounts receivable. | Simple | 10–15 |
| E7-15 | Journalizing various receivable transactions. | Simple | 15–18 |
| E7-16 | Transfer of receivables with guarantee. | Simple | 10–15 |
| E7-17 | Transfer of receivables with guarantee. | Moderate | 15–20 |
| E7-18 | Transfer of receivables without guarantee. | Simple | 10–15 |
| E7-19 | Notes transactions at unrealistic interest rates. | Simple | 10–15 |
| E7-20 | Notes receivable with unrealistic interest rate. | Moderate | 20–25 |
| E7-21 | Analysis of receivables. | Moderate | 10–15 |
| E7-22 | Transfer of receivables. | Moderate | 10–15 |
| *E7-23 | Petty cash. | Simple | 5–10 |
| *E7-24 | Petty cash. | Simple | 10–15 |
| *E7-25 | Bank reconciliation and adjusting entries. | Moderate | 15–20 |
| *E7-26 | Bank reconciliation and adjusting entries. | Simple | 15–20 |
| *E7-27 | Impairments. | Moderate | 15–25 |
| *E7-28 | Impairments. | Moderate | 15–25 |
| P7-1 | Determine proper cash balance. | Simple | 20–25 |
| P7-2 | Bad-debt reporting. | Moderate | 20–25 |
| P7-3 | Bad-debt reporting—aging. | Moderate | 20–30 |
| P7-4 | Bad-debt reporting. | Moderate | 25–35 |
| P7-5 | Bad-debt reporting. | Moderate | 20–30 |
| P7-6 | Journalize various accounts receivable transactions. | Moderate | 25–35 |
| P7-7 | Assigned accounts receivable—journal entries. | Moderate | 25–30 |
| P7-8 | Notes receivable with realistic interest rate. | Moderate | 30–35 |
| P7-9 | Notes receivable journal entries. | Moderate | 30–35 |
| P7-10 | Comprehensive receivables problem. | Complex | 40–50 |
| P7-11 | Income effects of receivables transactions. | Moderate | 20–25 |
| *P7-12 | Petty cash, bank reconciliation. | Moderate | 20–25 |
| *P7-13 | Bank reconciliation and adjusting entries. | Moderate | 20–30 |
| *P7-14 | Bank reconciliation and adjusting entries. | Moderate | 20–30 |
| *P7-15 | Loan impairment entries. | Moderate | 30–40 |

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|-------------------------------------------------------------------|---------------------|----------------|
| CA7-1 | Bad debt accounting. | Simple | 10–15 |
| CA7-2 | Various receivable accounting issues. | Simple | 15–20 |
| CA7-3 | Bad-debt reporting issues. | Moderate | 25–30 |
| CA7-4 | Basic note and accounts receivable transactions. | Moderate | 25–30 |
| CA7-5 | Bad-debt reporting issues. | Moderate | 25–30 |
| CA7-6 | Sale of notes receivable. | Moderate | 20–25 |
| CA7-7 | Zero-interest-bearing note receivable. | Moderate | 20–30 |
| CA7-8 | Reporting of notes receivable, interest, and sale of receivables. | Moderate | 25–30 |
| CA7-9 | Accounting for zero-interest-bearing note. | Moderate | 25–30 |
| CA7-10 | Receivables management. | Moderate | 25–30 |
| CA7-11 | Bad-debt reporting. | Moderate | 25–30 |

ANSWERS TO QUESTIONS

1. Cash normally consists of coins and currency on hand, bank deposits, and various kinds of orders for cash such as bank checks, money orders, travelers' checks, demand bills of exchange, bank drafts, and cashiers' checks. Balances on deposit in banks which are subject to immediate withdrawal are properly included in cash. Money market funds that provide checking account privileges may be classified as cash. There is some question as to whether deposits not subject to immediate withdrawal are properly included in cash or whether they should be set out separately. Savings accounts, time certificates of deposit, and time deposits fall in this latter category. Unless restrictions on these kinds of deposits are such that they cannot be converted (withdrawn) within one year or the operating cycle of the entity, whichever is longer, they are properly classified as current assets. At the same time, they may also be presented separately from other cash with the restrictions on convertibility reported.
2.

| | |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| (a) Cash | (h) Cash. |
| (b) Trading securities. | (i) Trading securities. |
| (c) Temporary investments. | (j) Cash. |
| (d) Accounts receivable. | (k) Cash. |
| (e) Other assets if not expendable, cash if expendable for goods and services in the foreign country. | (l) Postage expense, or prepaid expense, or office supplies inventory. |
| (f) Receivable if collection expected within one year; otherwise, other asset. | (m) Receivable from employee if the company is to be reimbursed; otherwise, prepaid expense. |
| (g) Investments, possibly other assets. | |
3. A compensating balance is that portion of any cash deposit maintained by an enterprise which constitutes support for existing borrowing arrangements with a lending institution.

A compensating balance representing a legally restricted deposit held against short-term borrowing arrangements should be stated separately among the cash and cash-equivalent items. A restricted deposit held as a compensating balance against non-current borrowing arrangements should be separately classified as a non-current asset in either the investments or other assets section.
4. Restricted cash for debt redemption would be reported in the non-current asset section, probably in the investments section. Another alternative is the other assets section. Given that the debt is long term, the restricted cash should also be reported as non-current.
5. The seller normally uses trade discounts to avoid frequent changes in its catalogs, to quote different prices for different quantities purchased, and to hide the true invoice price from competitors. Trade discounts are not recorded in the accounts because the price finally quoted is generally an accurate statement of the fair market value of the product on that date. In addition, no subsequent changes can occur to affect this value from an accounting standpoint. With a cash discount, the buyer receives a choice and events subsequent to the original transaction dictate that additional entries may be needed.

Questions Chapter 7 (Continued)

6. Two methods of recording accounts receivable are:
- (1) Record receivables and sales gross.
 - (2) Record receivables and sales net.

The net method is desirable from a theoretical standpoint because it values the receivable at its cash realizable value. In addition, recording the sales at net provides a better assessment of the revenue that was earned from the sale of the product. If the purchasing company fails to take the discount, then the company should reflect this amount as income. The gross method for receivables and sales is used in practice normally because it is expedient and its use does not generally have any significant effect on the presentation of the financial statements.

7. Amortized cost is the receivable amount measured at the date of acquisition, adjusted for any principal payments, amortization of any premium or discount, and reduced by any impairment or estimated uncollectibility.
8. The basic problems that relate to the valuation of receivables are (1) the determination of the face value of the receivable, (2) the probability of future collection of the receivable, and (3) the length of time the receivable will be outstanding. The determination of the face value of the receivable is a function of the trade discount, cash discount, and certain allowance accounts such as the Allowance for Sales Returns and Allowances.
9. The theoretical superiority of the allowance method over the direct write-off method of accounting for bad debts is two-fold. First, since revenue is considered to be recognized at the point of sale on the assumption that the resulting receivables are valid liquid assets merely awaiting collection, periodic income will be overstated to the extent of any receivables that eventually become uncollectible. The proper matching of revenue and expense requires that gross sales in the income statement be partially offset by a charge to bad debt expense that is based on an estimate of the receivables arising from gross sales that will not be converted into cash.

Second, accounts receivable on the balance sheet should be stated at their estimated cash realizable value. The allowance method accomplishes this by deducting from gross receivables the allowance for doubtful accounts. The latter is derived from the charges for bad debt expense on the income statement.

10. **The percentage-of-sales method.** Under this method Bad Debt Expense is debited and Allowance for Doubtful Accounts is credited with a percentage of the current year's credit or total sales. The rate is determined by reference to the relationship between prior years' credit or total sales and actual bad debts arising therefrom. Consideration should also be given to changes in credit policy and current economic conditions. Although the rate should theoretically be based on and applied to credit sales, the use of total sales is acceptable if the ratio of credit sales to total sales does not vary significantly from year to year.

The percentage-of-sales method of providing for estimated uncollectible receivables is intended to charge bad debt expense to the period in which the corresponding sales are recorded and is, therefore, designed for the preparation of a fair income statement. Due to annually insignificant but cumulatively significant errors in the experience rate which may result in either an excessive or inadequate balance in the allowance account, however, this method may not accurately report accounts receivable in the balance sheet at their estimated cash realizable value. This can be prevented by periodically reviewing and, if necessary, adjusting the balance in the allowance account. The materiality of any such adjustment would govern its treatment for reporting purposes.

Questions Chapter 7 (Continued)

The necessity of such adjustments of the allowance account indicates that bad debt expenses have not been accurately matched against related sales. Further, even when the experience rate does not result in an excessive or inadequate balance in the allowance account, this method tends to have a smoothing effect on reported periodic income due to year-to-year differences between the amounts of bad debt write-offs and estimated bad debts.

The aging method. With this method each year's debit to the expense account and credit to the allowance account are determined by an evaluation of the collectibility of open accounts receivable at the close of the year. An analysis of the accounts according to their due dates is the usual procedure. For each of the age categories established in the analysis, average percentage rates may be developed on the basis of past experience and applied to the accounts in the respective age categories. This method may also utilize individual analysis for some accounts, especially those that are considerably past due, in arriving at estimated uncollectible receivables. On the basis of the foregoing analysis the balance in the valuation account is then adjusted to the amount estimated to be uncollectible.

This method of providing for uncollectible accounts is quite accurate for purposes of reporting accounts receivable at their estimated cash realizable value in the statement of financial position. From the stand-point of the income statement, however, the aging method may not match accurately bad debt expenses with the sales which caused them because the charge to bad debt expense is not based on sales. The accuracy of both the charge to bad debt expense and the reported value of receivables depends on the current estimate of uncollectible accounts. The accuracy of the expense charge, however, is additionally dependent upon the timing of actual write-offs.

11. A major part of accounting is the measurement of financial data. Changes in values should be recognized as soon as they are measurable in objective terms in order for accounting to provide useful information on a periodic basis.

The very existence of accounts receivable is based on the decision that a credit sale is an objective indication that revenue should be recognized. The alternative is to wait until the debt is paid in cash. If revenue is to be recognized and an asset recorded at the time of a credit sale, the need for fairness in the statements requires that both expenses and the asset be adjusted for the estimated amounts of the asset that experience indicates will not be collected.

The argument may be persuasive that the evidence supporting write-offs permits a more accurate decision than that which supports the allowance method. The latter method, however, is "objective" in the sense in which accountants use the term and is justified by the need for fair presentation of receivables and income. The direct write-off method is not wholly objective; it requires the use of judgment in determining when an account has become uncollectible.

12. A receivable is considered impaired when a loss event indicates a negative impact on the estimated future cash flows to be received from the customer. The IASB requires that the impairment assessment should be performed as follows.
 - (1) Receivables that are individually significant should be considered for impairment separately. If impaired, the company recognizes it. Receivables that are not individually significant may also be assessed individually, but it is not necessary to do so.
 - (2) Any receivable individually assessed that is not considered impaired should be included with a group of assets with similar credit-risk characteristics and collectively assessed for impairment.
 - (3) Any receivables not individually assessed should be collectively assessed for impairment.

Questions Chapter 7 (Continued)

13. The receivable due from Bernstein Company should be written off to an appropriately named loss account and reported in the income statement as part of income from operations. In this case, classification as an unusual item would seem appropriate. The loss may properly be reduced by the portion of the allowance for doubtful accounts at the end of the preceding year that was allocable to the Bernstein Company account.

Estimates for doubtful accounts are based on a firm's prior bad debt experience with due consideration given to changes in credit policy and forecasted general or industry business conditions.

The purpose of the allowance method is to anticipate only that amount of bad debt expense which can be reasonably forecasted in the normal course of events; it is not intended to anticipate bad debt losses which are abnormal and nonrecurring in nature.

14. If the direct write-off method is used, the only alternative is to debit Cash and credit a revenue account entitled Uncollectible Amounts Recovered. If the allowance method is used, then the company will debit Accounts Receivable and credit the Allowance for Doubtful Accounts. An entry is then made to credit the customer's account and debit Cash upon receipt of the remittance.

15. The journal entry on Lombard's books would be:

| | | |
|------------------------------------|-----------|----------|
| Notes Receivable..... | 1,000,000 | |
| Discount on Notes Receivable | | 360,000 |
| Sales Revenue | | 640,000* |

*Assumes that seller is a dealer in this property. If not, the property might be credited, and a loss on sale of \$50,000 would be recognized.

16. Imputed interest is the interest ascribed or attributed to a situation or circumstance which is void of a stated or otherwise appropriate interest factor. Imputed interest is the result of a process of interest rate estimation called imputation.

An interest rate is imputed for notes receivable when (1) no interest rate is stated for the transaction, or (2) the stated interest rate is unreasonable, or (3) the stated face amount of the note is materially different from the current cash price for the same or similar items or from the current market value of the debt instrument.

In imputing an appropriate interest rate, consideration should be given to the prevailing interest rates for similar instruments of issuers with similar credit ratings, the collateral, and restrictive covenants.

17. The fair value option gives companies the option of using fair value as the measurement basis for financial instruments. The IASB believes that fair value measurement for financial instruments provides more relevant and understandable information than historical cost. If companies choose the fair value option, the receivables are recorded at fair value, with unrealized gains or losses reported as part of net income.
18. A company might sell receivables because money is tight and access to normal credit is not available or prohibitively expensive. Also, a company may have to sell its receivables, instead of borrowing, to avoid violating existing lending arrangements. In addition, billing and collection of receivables are often time-consuming and costly.
19. The risks and rewards approach is used when receivables are sold with or without recourse. A transfer of receivables should be recorded as a sale when the seller has transferred substantially all the risks and rewards of ownership of the financial asset. If the substantially all of the risks and rewards are not transferred, the company treats the transfer as a secured borrowing.

Questions Chapter 7 (Continued)

20. Full guarantee (recourse) is a guarantee from Moon that if any of the sold receivables are uncollectible, Moon will pay the factor for the amount of the uncollectible account. This guarantee represents continuing involvement by Moon after the sale. Under the risks and rewards model, the face value of the receivables factored will be reported as a liability on Moon's statement of financial position.
21. Several acceptable solutions are possible depending upon assumptions made as to whether certain items are collectible within the operating cycle or not. The following illustrates one possibility:

Current Assets

Accounts receivable—Trade (of which accounts in the amount of €75,000 have been assigned as security for loans payable)

| | |
|-------------------------------------------------------|----------|
| (€523,000 + €75,000) | €598,000 |
| Tax refund receivable | 15,500 |
| Advance payments on purchases | 61,000 |
| Investments | |
| Advance to subsidiary | 45,500 |
| Other Assets | |
| Travel advance to employees | 22,000 |
| Notes receivable past due plus accrued interest | 47,000 |

22. The accounts receivable turnover ratio is computed by dividing net sales by average net receivables outstanding during the year. This ratio is used to assess the liquidity of the receivables. It measures the number of times, on average, receivables are collected during the period. It provides some indication of the quality of the receivables and how successful the company is in collecting its outstanding receivables.
23. Because the restricted cash can not be used by Woodlawn to meet current obligations, it should not be reported as a current asset—it should be reported in investments or other assets. Thus, although this item has cash in its label, it should not be reflected in liquidity measures, such as the current or acid-test ratios.
24. Both the IASB and the FASB have indicated that they believe that financial statements would be more transparent and understandable if companies recorded and reported all financial instruments at fair value. The Boards have adopted a piecemeal approach in which disclosure of fair value information in the notes is the first step. The second step is the fair value option which permits companies to record fair values in the financial statements. The fair value option for recording financial instruments such as receivables is an important step in moving closer to fair value recording.
25. **Key similarities relate to** (1) the definition used for cash equivalents, (2) accounting and reporting issues related to recognition and measurement of receivables, such as the use of allowance accounts, how to record trade and sales discounts, use of percentage of sales and receivables methods, pledging, and factoring, and (3) both Boards are working to implement fair value measurement for all financial instruments but both Boards have faced bitter opposition from various factions.

Key differences relate to (1) IFRS has no guidance for segregation of receivables with different characteristics, (2) IFRS and U.S. GAAP standards on the fair value option are similar but not identical. The international standard related to the fair value option is subject to certain qualifying criteria not in the U.S. standard. In addition, there is some difference in the financial instruments covered, (3) IFRS and U.S. GAAP differ in the criteria used to derecognize a receivable. IFRS is a combination of a risks and rewards and a loss of control approach. U.S. GAAP uses loss of control as the primary criterion. In addition, IFRS permits partial derecognition—U.S. GAAP does not.

Questions Chapter 7 (Continued)

26. Simonis makes the following entry to record the impairment.

| | | |
|-------------------------------------------------------------|-------|-------|
| Impairment Loss..... | 5,000 | |
| Notes Receivable (or Allowance for Doubtful Accounts) | | 5,000 |

Under IFRS, Simonis may record recovery of losses on prior impairments. Under U.S. GAAP, reversal of impairment is not permitted. Rather the balance on the receivable after the impairment becomes the new basis for the receivable.

- *27. (1) The **general checking account** is the principal bank account of most companies and frequently the only bank account of small companies. Most if not all transactions are cycled through the general checking account, either directly or on an imprest basis.
- (2) **Imprest bank accounts** are used to disburse cash (checks) for a specific purpose, such as dividends, payroll, commissions, or travel expenses. Money is deposited in the imprest fund from the general fund in an amount necessary to cover a specific group of disbursements.
- (3) **Lockbox accounts** are local post office boxes to which a multi-location company instructs its customers to mail remittances. A local bank is authorized to empty the box daily and credit the company's accounts for collections.
- *28. A receivable is considered impaired when it is probable that the creditor will be unable to collect all amounts due (both principal and interest) according to the contractual terms of the receivable. If a receivable is considered impaired, the loss due to impairment should be measured as the difference between the carrying amount and the expected future cash flows discounted at the loan's historical effective-interest rate. The loss is recorded on the books of the creditor. The debtor would not be aware of the entry made by the creditor and would not make an entry until settlement or if a modification of terms resulted.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 7-1

| | |
|------------------------------------|-----------------|
| Cash in bank—savings account | \$68,000 |
| Cash on hand | 9,300 |
| Checking account balance..... | <u>17,000</u> |
| Cash to be reported..... | <u>\$94,300</u> |

BRIEF EXERCISE 7-2

| | | | |
|---------|---------------------------|---------|--------|
| June 1 | Accounts Receivable | 50,000 | |
| | Sales..... | | 50,000 |
| June 12 | Cash..... | 48,500* | |
| | Sales Discounts..... | 1,500 | |
| | Accounts Receivable..... | | 50,000 |

$$*\$50,000 - (\$50,000 \times .03) = \underline{\$48,500}$$

BRIEF EXERCISE 7-3

| | | | |
|---------|---------------------------|---------|--------|
| June 1 | Accounts Receivable | 48,500* | |
| | Sales..... | | 48,500 |
| June 12 | Cash..... | 48,500 | |
| | Accounts Receivable..... | | 48,500 |

$$*\$50,000 - (\$50,000 \times .03) = \underline{\$48,500}$$

BRIEF EXERCISE 7-4

| | | |
|---------------------------------|--------|--------|
| Bad Debt Expense..... | 28,000 | |
| Allowance for Doubtful Accounts | | |
| (€1,400,000 X 2%)..... | | 28,000 |

BRIEF EXERCISE 7-5

| | | |
|-----------------------------------|--------|--------|
| (a) Bad Debt Expense | 22,600 | |
| Allowance for Doubtful Accounts | | |
| [(10% X €250,000) – €2,400] | | 22,600 |
| (b) Bad Debt Expense | 22,200 | |
| Allowance for Doubtful Accounts | | |
| (€24,600 – €2,400)..... | | 22,200 |

BRIEF EXERCISE 7-6

| | | | |
|----------|-----------------------------|--------|--------|
| 11/1/10 | Notes Receivable..... | 30,000 | |
| | Sales | | 30,000 |
| 12/31/10 | Interest Receivable | 300 | |
| | Interest Revenue | | |
| | (\$30,000 X 6% X 2/12)..... | | 300 |
| 5/1/11 | Cash..... | 30,900 | |
| | Notes Receivable..... | | 30,000 |
| | Interest Receivable | | 300 |
| | Interest Revenue | | |
| | (\$30,000 X 6% X 4/12)..... | | 600 |

BRIEF EXERCISE 7-7

| | | |
|----------------------------------|--------|--------|
| Notes Receivable | 16,529 | |
| Cash | | 16,529 |
| Notes Receivable | 1,653 | |
| Interest Revenue | | |
| \$16,529 X 10% | | 1,653 |
| Notes Receivable | 1,818 | |
| Interest Revenue | | |
| (\$16,529 + \$1,653) X 10% | | 1,818 |
| Cash..... | 20,000 | |
| Notes Receivable..... | | 20,000 |

BRIEF EXERCISE 7-8

| | | |
|--------------------------------------|--------------|----------------|
| Initial face value..... | | €22,000 |
| Less: Payments received | €3,000 | |
| Provision for uncollectibility | <u>5,000</u> | <u>8,000</u> |
| Amortized cost..... | | <u>€14,000</u> |

BRIEF EXERCISE 7-9

| | | | |
|----|------------------------------------------|-----------------|-------|
| 1. | Fair value of note | \$17,500 | |
| | Carrying value | <u>(16,000)</u> | |
| | Unrealized holding gain | <u>\$ 1,500</u> | |
| 2. | Notes Receivable | 1,500 | |
| | Unrealized Holding Gain/Loss-Income | | 1,500 |

BRIEF EXERCISE 7-10

Chung, Inc.

| | | |
|----------------------------------------|---------|---------|
| Cash | 730,000 | |
| Finance Charge (¥1,000,000 X 2%) | 20,000 | |
| Notes Payable | | 750,000 |

Seneca National Bank

| | | |
|------------------------------------------|---------|---------|
| Notes Receivable | 750,000 | |
| Cash | | 730,000 |
| Financing Revenue (¥1,000,000 X 2%)..... | | 20,000 |

BRIEF EXERCISE 7-11

Wood

| | | |
|-----------------------------------|---------|---------|
| Cash..... | 138,000 | |
| Due from Factor..... | 9,000* | |
| Loss on Sale of Receivables | 3,000** | |
| Accounts Receivable | | 150,000 |

$$*6\% \times \$150,000 = \underline{\$9,000}$$

$$**2\% \times \$150,000 = \underline{\$3,000}$$

Engram

| | | |
|---------------------------|---------|---------|
| Accounts Receivable | 150,000 | |
| Due to Wood..... | | 9,000 |
| Financing Revenue | | 3,000 |
| Cash..... | | 138,000 |

BRIEF EXERCISE 7-12

Wood

| | | |
|----------------------------------|---------|---------|
| Cash..... | 138,000 | |
| Due from Factor..... | 9,000* | |
| Finance Charge..... | 3,000** | |
| Liability to Engram Factors..... | | 150,000 |

$$*6\% \times \$150,000 = \underline{\$9,000}$$

$$**2\% \times \$150,000 = \underline{\$3,000}$$

BRIEF EXERCISE 7-13

| | | |
|--------------------------------------------------|---------|---------|
| Cash \$250,000 – [\$250,000 X (.05 + .04)] | 227,500 | |
| Due from Factor (\$250,000 X .04) | 10,000 | |
| Loss on Sale of Receivables | 12,500* | |
| Accounts Receivable | | 250,000 |

*($\$250,000 \times .05$)

BRIEF EXERCISE 7-14

The entry for the sale now would be:

| | | |
|---------------------------------------------------|---------|---------|
| Cash \$250,000 – [(\$250,000 X (.05 + .04))]..... | 227,500 | |
| Due from Factor (\$250,000 X .04) | 10,000 | |
| Finance Charge | 12,500* | |
| Liability to Commercial Factors..... | | 250,000 |

*($\$250,000 \times .05$)

Arness's financial statements would include a liability (Liability to Commercial Factors) since the receivables were sold with a full guarantee for credit losses.

BRIEF EXERCISE 7-15

The accounts receivable turnover ratio is computed as follows:

$$\frac{\text{Net Sales}}{\text{Average Trade Receivables (net)}} = \frac{\text{€10,799}}{\frac{\text{€1,459} + \text{€1,624}}{2}} = 7.0 \text{ times}$$

BRIEF EXERCISE 7-15 (Continued)

The average collection period for accounts receivable in days is

$$\frac{365 \text{ days}}{\text{Accounts Receivable Turnover}} = \frac{365}{7.01} = 52.01 \text{ days}$$

*BRIEF EXERCISE 7-16

| | | |
|-----------------------------|-----|-----|
| Petty Cash | 200 | |
| Cash | | 200 |
| Office Supplies..... | 94 | |
| Miscellaneous Expense | 87 | |
| Cash Over and Short..... | 4 | |
| Cash (£200 – £15) | | 185 |

*BRIEF EXERCISE 7-17

- (a) Added to balance per bank statement (1)
- (b) Deducted from balance per books (4)
- (c) Added to balance per books (3)
- (d) Deducted from balance per bank statement (2)
- (e) Deducted from balance per books (4)

***BRIEF EXERCISE 7-18**

| | | | |
|-----|----------------------------------|-----|-----|
| (b) | Office Expense—Bank Charges..... | 25 | |
| | Cash..... | | 25 |
| (c) | Cash | 31 | |
| | Interest Revenue | | 31 |
| (e) | Accounts Receivable..... | 377 | |
| | Cash..... | | 377 |

Thus, all “Balance per Books” adjustments in the reconciliation require a journal entry.

***BRIEF EXERCISE 7-19**

National Bank (Creditor):

| | | |
|---------------------------------------|---------|---------|
| Bad Debt Expense..... | 225,000 | |
| Allowance for Doubtful Accounts | | 225,000 |

SOLUTIONS TO EXERCISES

EXERCISE 7-1 (10–15 minutes)

(a) Cash includes the following:

| | |
|---------------------------------------------------------|--------------------|
| 1. Commercial savings account— | |
| First National Bank of Olathe | \$ 600,000 |
| 1. Commercial checking account— | |
| First National Bank of Olathe | 800,000 |
| 2. Money market fund—Volonte | 5,000,000 |
| 5. Petty cash..... | 1,000 |
| 11. Commercial Paper (cash equivalent)..... | 2,100,000 |
| 12. Currency and coin on hand..... | <u>7,700</u> |
| Cash reported on December 31, 2010, balance sheet | <u>\$8,508,700</u> |

(b) Other items classified as follows:

3. Travel advances (reimbursed by employee)* should be reported as receivable—employee in the amount of \$180,000.
4. Cash restricted in the amount of \$1,500,000 for the retirement of long-term debt should be reported as a noncurrent asset identified as “Cash restricted for retirement of long-term debt.”
6. An IOU from Marianne Koch should be reported as a receivable in the amount of \$150,000.
7. The bank overdraft of \$110,000 should be reported as a current liability.**
8. Certificates of deposits of \$500,000 each should be classified as temporary investments.

EXERCISE 7-1 (Continued)

- 9. Postdated check of \$125,000 should be reported as an accounts receivable.
- 10. The compensating balance requirement does not affect the balance in cash. A note disclosure indicating the arrangement and the amounts involved should be described in the notes.

***If not reimbursed, charge to prepaid expense.**

****If cash is present in another account in the same bank on which the overdraft occurred, offsetting is required.**

EXERCISE 7-2 (10–15 minutes)

- 1. Cash balance of \$925,000. Only the checking account balance should be reported as cash. The certificates of deposit of \$1,400,000 should be reported as a temporary investment, the cash advance to subsidiary of \$980,000 should be reported as a receivable, and the utility deposit of \$180 should be identified as a receivable from the gas company.

- 2. Cash balance is \$484,650 computed as follows:

| | |
|--------------------------------|------------------|
| Checking account balance | \$500,000 |
| Overdraft..... | (17,000) |
| Petty cash..... | 300 |
| Coin and currency | <u>1,350</u> |
| | <u>\$484,650</u> |

Cash held in a bond sinking fund is restricted. Assuming that the bonds are noncurrent, the restricted cash is also reported as noncurrent.

EXERCISE 7-2 (Continued)

3. Cash balance is \$599,800 computed as follows:

| | |
|------------------------------------|------------------|
| Checking account balance | \$590,000 |
| Certified check from customer..... | <u>9,800</u> |
| | <u>\$599,800</u> |

The postdated check of \$11,000 should be reported as a receivable. Cash restricted due to compensating balance should be described in a note indicating the type of arrangement and amount. Postage stamps on hand are reported as part of office supplies inventory or prepaid expenses.

4. Cash balance is \$90,000 computed as follows:

| | |
|--------------------------------|-----------------|
| Checking account balance | \$42,000 |
| Money market mutual fund..... | <u>48,000</u> |
| | <u>\$90,000</u> |

The NSF check received from customer should be reported as a receivable.

5. Cash balance is \$700,900 computed as follows:

| | |
|------------------------------------------|------------------|
| Checking account balance | \$700,000 |
| Cash advance received from customer..... | <u>900</u> |
| | <u>\$700,900</u> |

Cash restricted for future plant expansion of \$500,000 should be reported as a noncurrent asset. Short-term Treasury bills of \$180,000 should be reported as a temporary investment. Cash advance received from customer of \$900 should also be reported as a liability; cash advance of \$7,000 to company executive should be reported as a receivable; refundable deposit of \$26,000 paid to federal government should be reported as a receivable.

EXERCISE 7-3 (10–15 minutes)

Current assets

Accounts receivable

Customers accounts (of which accounts

in the amount of €40,000 have

have been pledged as security

for a bank loan) €89,000

Installment accounts due in 2011 23,000

Installment accounts due after

December 31, 2011* 34,000 €146,000

Other** (€2,640 + €1,500)..... 4,140 €150,140

Investments

Advance to subsidiary company..... 91,000

*This classification assumes that these receivables are collectible within the operating cycle of the business.

**These items could be separately classified, if considered material.

EXERCISE 7-4 (10–15 minutes)

Computation of cost of goods sold:

Merchandise purchased \$320,000

Less: Ending inventory..... 70,000

Cost of goods sold..... \$250,000

EXERCISE 7-4 (Continued)

Selling price = 1.4 (Cost of good sold)
= 1.4 (\$250,000)
= \$350,000

| | |
|--------------------------|----------------------------------------|
| Sales on account..... | \$350,000 |
| Less: Collections | <u>198,000</u> |
| Uncollected balance..... | 152,000 |
| Balance per ledger..... | <u>117,000</u> |
| Apparent shortage | <u>\$ 35,000</u> —Enough for a new car |

EXERCISE 7-5 (15–20 minutes)

| | | |
|-------------------------------------------------|-------|-------|
| (a) 1. June 3 Accounts Receivable—Arquette..... | 2,000 | |
| Sales | | 2,000 |
| June 12 Cash | 1,960 | |
| Sales Discounts (£2,000 X 2%)..... | 40 | |
| Accounts Receivable—Arquette | | 2,000 |
| 2. June 3 Accounts Receivable—Arquette..... | 1,960 | |
| Sales (£2,000 X 98%) | | 1,960 |
| June 12 Cash | 1,960 | |
| Accounts Receivable—Arquette | | 1,960 |

EXERCISE 7-5 (Continued)

| | | | | |
|-----|---------|------------------------------------|-------|-------|
| (b) | July 29 | Cash | 2,000 | |
| | | Accounts Receivable—Arquette | | 1,960 |
| | | Sales Discounts Forfeited | | 40 |

(Note to instructor: Sales discounts forfeited could have been recognized at the time the discount period lapsed. The company, however, would probably not record this forfeiture until final cash settlement.)

EXERCISE 7-6 (5–10 minutes)

| | | | | |
|------|---|---------------------------|--------|--------|
| July | 1 | Accounts Receivable | 30,000 | |
| | | Sales | | 30,000 |

| | | | | |
|------|----|---------------------------|---------|--------|
| July | 10 | Cash | 29,100* | |
| | | Sales Discounts | 900 | |
| | | Accounts Receivable | | 30,000 |

*\$30,000 – (.03 X \$30,000) = \$29,100

| | | | | |
|------|----|---------------------------|---------|---------|
| July | 17 | Accounts Receivable | 250,000 | |
| | | Sales | | 250,000 |

| | | | | |
|------|----|---------------------------|---------|---------|
| July | 30 | Cash | 250,000 | |
| | | Accounts Receivable | | 250,000 |

EXERCISE 7-7 (10–15 minutes)

| | | | |
|-----|---------------------------------------|-------|--------|
| (a) | Bad Debt Expense..... | 7,500 | |
| | Allowance for Doubtful Accounts | | 7,500* |

$$*.01 \times (\text{€}800,000 - \text{€}50,000) = \underline{\text{€}7,500}$$

| | | | |
|-----|---------------------------------------|-------|--------|
| (b) | Bad Debt Expense..... | 6,000 | |
| | Allowance for Doubtful Accounts | | 6,000* |

*Step 1: $.05 \times \text{€}160,000 = \text{€}8,000$ (desired credit balance in Allowance account)

Step 2: $\text{€}8,000 - \text{€}2,000 = \text{€}6,000$ (required credit entry to bring allowance account to €8,000 credit balance)

EXERCISE 7-8 (5–10 minutes)

| | | | |
|-----|--------------------------------------|-------|-------|
| (a) | Allowance for Doubtful Accounts..... | 8,000 | |
| | Accounts Receivable..... | | 8,000 |

| | | |
|-----|--------------------------------------------|------------------|
| (b) | Accounts Receivable | \$900,000 |
| | Less: Allowance for Doubtful Accounts..... | <u>40,000</u> |
| | Net realizable value | <u>\$860,000</u> |

| | | |
|-----|--------------------------------------------|------------------|
| (c) | Accounts Receivable | \$892,000 |
| | Less: Allowance for Doubtful Accounts..... | <u>32,000</u> |
| | Net realizable value | <u>\$860,000</u> |

EXERCISE 7-9 (8–10 minutes)

| | | | |
|-----|------------------------------------------|-------|-------|
| (a) | Bad Debt Expense | 4,950 | |
| | Allowance for Doubtful Accounts | | |
| | (\$80,000 X 4%) + \$1,750 = \$4,950..... | | 4,950 |
| (b) | Bad Debt Expense | 5,800 | |
| | Allowance for Doubtful Accounts | | |
| | \$580,000 X 1% = \$5,800..... | | 5,800 |

EXERCISE 7-10 (10–12 minutes)

(a) The direct write-off approach is not theoretically justifiable even though required for income tax purposes. The direct write-off method does not match expenses with revenues of the period, nor does it result in receivables being stated at estimated realizable value on the balance sheet.

(b) Bad Debt Expense – 2% of Sales = \$48,000 (\$2,400,000 X 2%)
Bad Debt Expense – Direct Write-Off = \$34,330 (\$7,800 + \$9,700 + \$7,000 + \$9,830)

Net income would be \$13,670 (\$48,000 – \$34,330) lower under the percentage-of-sales approach.

EXERCISE 7-11 (8–10 minutes)

| | | |
|-------------------------------------------|----------------|--------------------------|
| Balance 1/1 (\$700 – \$255) | \$ 445 | Over one year |
| 4/12 (#2412) (\$1,710 – \$1,000 – \$400*) | 310 | Eight months and 19 days |
| 11/18 (#5681) (\$2,000 – \$1,250) | <u>750</u> | One month and 13 days |
| | <u>\$1,505</u> | |

*($\$890 - \490)

Inasmuch as later invoices have been paid in full, all three of these amounts should be investigated in order to determine why Alstott Co. has not paid them. The amounts in the beginning balance and #2412 should be of particular concern.

EXERCISE 7-12 (15–20 minutes)

| | | | |
|-----|-----------------------------------------------------------|--------|--------|
| 7/1 | Accounts Receivable—Legler Co. | 9,800 | |
| | Sales ($\text{€}10,000 \times 98\%$)..... | | 9,800 |
| 7/5 | Cash [$\text{€}12,000 \times (1 - .09)$]..... | 10,920 | |
| | Loss on Sale of Receivables | 1,080 | |
| | Accounts Receivable ($\text{€}12,000 \times 98\%$)..... | | 11,760 |
| | Sales Discounts Forfeited..... | | 240 |

(Note: It is possible that the company already recorded the Sales Discounts Forfeited. In this case, the credit to Accounts Receivable would be for $\text{€}12,000$. The same point applies to the next entry as well.)

EXERCISE 7-12 (Continued)

| | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------|--------|
| 7/9 | Accounts Receivable | 180 | |
| | Sales Discounts Forfeited | | |
| | (€9,000 X 2%) | | 180 |
| | Cash | 5,640 | |
| | Finance Charge (€6,000 X 6%) | 360 | |
| | Notes Payable..... | | 6,000 |
| 7/11 | Accounts Receivable—Legler Co. | 200 | |
| | Sales Discounts Forfeited | | |
| | (€10,000 X 2%)..... | | 200 |
| <p>This entry may be made at the next time financial statements are prepared. Also, it may occur on 12/29 when Legler Company's receivable is adjusted.</p> | | | |
| 12/29 | Allowance for Doubtful Accounts | 9,000 | |
| | Accounts Receivable—Legler Co. | | |
| | [€9,800 + €200 = €10,000; | | |
| | €10,000 – (10% X €10,000) = €9,000]..... | | 9,000 |
| 12/31 | Bad Debt Expense | 75,000 | |
| | Allowance for Doubtful Accounts | | |
| | (€350,000 – €275,000)..... | | 75,000 |

EXERCISE 7-13 (10–15 minutes)**(a) 12/31/10 No entry (Carrying Value = Fair Value)**

| | | | |
|-----------------|----------------------------------------------|--------------|--------------|
| 12/31/11 | Unrealized Holding Gain/Loss- | | |
| | Income..... | 1,500 | |
| | Notes Receivable | | |
| | (¥44,000 – ¥42,500) | | 1,500 |
| 12/31/12 | Notes Receivable | | |
| | [(¥38,000 – ¥36,000)] + ¥1,500] | 3,500 | |
| | Unrealized Holding Gain/Loss | | |
| | -Income..... | | 3,500 |

(b) The note will be reported at ¥42,500 on Kobiashi's 2011 statement of financial position.**(c) Kobiashi's 2012 income is ¥3,500 higher since the change in fair value is reported as part of net income.****EXERCISE 7-14 (10–15 minutes)**

| | | | |
|------------|-----------------------------|----------------|----------------|
| (a) | Cash | 290,000 | |
| | Finance Charge | 10,000* | |
| | Notes Payable | | 300,000 |

***2% X \$500,000 = \$10,000**

| | | | |
|------------|---------------------------------|----------------|----------------|
| (b) | Cash | 350,000 | |
| | Accounts Receivable..... | | 350,000 |

EXERCISE 7-14 (Continued)

| | | |
|-------------------------|---------|---------|
| (c) Notes Payable | 300,000 | |
| Interest Expense | 7,500* | |
| Cash..... | | 307,500 |

$$*10\% \times \$300,000 \times 3/12 = \underline{\$7,500}$$

EXERCISE 7-15 (15–18 minutes)

| | | |
|-------------------------------------------------------------------|--------|--------|
| 1. Cash..... | 18,000 | |
| Loss on Sale of Receivables (¥20,000 X 10%) | 2,000 | |
| Accounts Receivable..... | | 20,000 |
| 2. Cash | 50,600 | |
| Finance Charge (¥55,000 X 8%)..... | 4,400 | |
| Notes Payable | | 55,000 |
| 3. Bad Debt Expense..... | 5,850 | |
| Allowance for Doubtful Accounts [(¥82,000 X 5%) + ¥1,750]..... | | 5,850 |
| 4. Bad Debt Expense..... | 6,450 | |
| Allowance for Doubtful Accounts (¥430,000 X 1.5%) | | 6,450 |

EXERCISE 7-16 (10–15 minutes)

| | | |
|----------------------------------|---------|---------|
| Cash | 190,000 | |
| Finance Charge | 10,000 | |
| Liability to Warren Company..... | | 200,000 |

EXERCISE 7-17 (15–20 minutes)

- (a) According to the IASB, determining whether receivables that are transferred can be accounted for as a sale is based on an evaluation of whether the seller has transferred substantially all the risks and rewards of ownership of the receivables. If substantially all the risks and rewards of ownership of the receivables are transferred, then they are derecognized (accounted for as a sale). This is likely the case here because there is no guarantee.

- (b) The following journal entry would be made:

| | | |
|--------------------------------------|---------|---------|
| Cash..... | 235,000 | |
| Due from Factor (€250,000 X 4%)..... | 10,000 | |
| Loss on Sale (€250,000 X 2%) | 5,000 | |
| Accounts Receivable | | 250,000 |

EXERCISE 7-18 (10–15 minutes)

| | | | |
|------------|----------------------------------|---------|---------|
| (a) July 1 | Cash | 378,000 | |
| | Due from Factor..... | 16,000* | |
| | Loss on Sale of Receivables..... | 6,000** | |
| | Accounts Receivable | | 400,000 |

*(4% X ¥400,000) = ¥16,000

** $(1\frac{1}{2}\% \times ¥400,000) = ¥6,000$

| | | | |
|------------|--------------------------|---------|---------|
| (b) July 1 | Accounts Receivable..... | 400,000 | |
| | Due to SEK Corp. | | 16,000 |
| | Financing Revenue..... | | 6,000 |
| | Cash..... | | 378,000 |

EXERCISE 7-19 (10–15 minutes)

| | | | | |
|----|--------|-----------------------------|---------|---------|
| 1. | 7/1/10 | Notes Receivable | 900,000 | |
| | | Land..... | | 590,000 |
| | | Gain on Sale of Land | | |
| | | (£900,000 – £590,000) | | 310,000 |

Computation of total interest

| | |
|------------------|-----------------------------------------|
| £1,416,163 | Face value of note |
| <u>.63552</u> | Present value of 1 for 4 periods at 12% |
| £ 900,000 | Present value of note |
| <u>1,416,163</u> | Face value of note |
| <u>£ 516,163</u> | Total interest on notes receivable |

| | | | | |
|----|--------|------------------------|------------|------------|
| 2. | 7/1/10 | Notes Receivable | 221,163.88 | |
| | | Service Revenue | | 221,163.68 |

Computation of the present value of the note:

| | |
|------------------------------------------|--------------------|
| Maturity value | £400,000.00 |
| Present value of £400,000 due in | |
| 8 years at 12%—£400,000 X .40388..... | £161,552.00 |
| Present value of £12,000 | |
| payable annually for 8 years at | |
| 12% annually—£12,000 X 4.96764 | <u>59,611.68</u> |
| Present value of the note..... | <u>221,163.68</u> |
| Total interest on notes receivable | <u>£178,836.32</u> |

EXERCISE 7-20 (20–25 minutes)

| | | | |
|-----|--------------------------|---------|----------|
| (a) | Notes Receivable..... | 247,935 | |
| | Consulting Revenue | | 247,935* |

*Computation of present value of note:
PV of \$300,000 due in 2 years at 10%
\$300,000 X .82645 = \$247,935

| | | | |
|-----|------------------------|--------|---------|
| (b) | Notes Receivable..... | 24,794 | |
| | Interest Revenue | | 24,794* |

*\$247,935 X 10% = \$24,794

| | | | |
|-----|-----------------------------------|---------|--------|
| (c) | Discount on Notes Receivable..... | 27,271* | |
| | Interest Revenue | | 27,271 |

*\$52,065 – \$24,794

| | | | |
|--|------------------------|---------|---------|
| | Cash..... | 300,000 | |
| | Notes Receivable | | 300,000 |

| | | | |
|-----|-------------------------------------------------|--------|---------|
| (d) | Notes Receivable..... | 47,271 | |
| | Unrealized Holding Gain or Loss—Income | | 47,271* |

| | |
|-----------------------------|----------------|
| *Note Receivable, net:..... | \$247,935 |
| Amortization, 12/31/10..... | <u>24,794</u> |
| Book Value, 12/31/10 | <u>272,729</u> |

| | |
|-----------------------|------------------|
| Fair Value: | \$320,000 |
| Carrying Value:..... | <u>(272,729)</u> |
| Unrealized Gain | <u>\$ 47,271</u> |

EXERCISE 7-21 (10–15 minutes)

| | | | |
|-----|---------------------------|---------|---------|
| (a) | Accounts Receivable | 100,000 | |
| | Sales..... | | 100,000 |
| | Cash | 80,000 | |
| | Accounts Receivable..... | | 80,000 |

$$(b) \quad \text{Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average Trade Receivables (net)}}$$

$$\frac{\text{Net Sales}}{\text{Average Trade Receivables (net)}} = \frac{€100,000}{(€15,000 + €35,000^*)/2} = 4.0 \text{ times}$$

$$^*€15,000 + €100,000 - €80,000$$

$$\text{Average number of days to collect receivables} = \frac{365}{4.0} = 91 \text{ days}$$

- (c) Grant Company's turnover ratio has declined significantly. That is, it is turning receivables 4.0 times a year and collections on receivables took 91 days. In the prior year, the turnover ratio was almost double (7.0) and collections took only 52 days. This is a bad trend in liquidity. Grant should consider offering early payment discounts and/or tightened credit and collection policies.

EXERCISE 7-22 (10–15 minutes)

| | | |
|---------------------------------------|-------|--------|
| (a) Cash [\$10,000 X (1 – .09)] | 9,100 | |
| Due from Factor..... | 500 | |
| Loss on Sale of Receivables..... | 400 | |
| Accounts Receivable | | 10,000 |

Computation of cash received

| | |
|--------------------------------------------|----------------|
| Accounts receivable..... | €10,000 |
| Less: Due from factor (5% X €10,000) | 500 |
| Finance charge (4% X €10,000) | 400 |
| Cash received..... | <u>€ 9,100</u> |

$$(b) \quad \text{Accounts Receivable Turnover} = \frac{\text{Net Sales}}{\text{Average Trade Receivables (net)}}$$

$$\frac{\text{Net Sales}}{\text{Average Trade Receivables (net)}} = \frac{\$100,000}{(\text{€}15,000 + \text{€}25,000^*)/2} = 5.0 \text{ times}$$

$$^*(\text{€}15,000 + \text{€}100,000 - \text{€}80,000 - \text{€}10,000)$$

$$\text{Average number of days to collect} = \frac{365}{5.0} = 73 \text{ days}$$

With the factoring transaction, Grant Company's turnover ratio still declines but by less than in the earlier exercise. While Grant's collections have slowed, by factoring the receivables, Grant is able to convert them to cash. The cost of this approach to converting receivables to cash is captured in the Loss on Sale of Receivables account.

***EXERCISE 7-23 (5–10 minutes)**

| | | | | |
|----|----------|-------------------------------------|-----|-----|
| 1. | April 1 | Petty Cash | 200 | |
| | | Cash | | 200 |
| 2. | April 10 | Inventory (Transportation in) | 60 | |
| | | Supplies Expense | 25 | |
| | | Postage Expense | 40 | |
| | | Accounts Receivable—Employees | 17 | |
| | | Miscellaneous Expense | 36 | |
| | | Cash Over and Short | 10 | |
| | | Cash (\$200 – \$12) | | 188 |
| 3. | April 20 | Petty Cash | 100 | |
| | | Cash | | 100 |

***EXERCISE 7-24 (10–15 minutes)**

| | | | | |
|--------------------------------------|--|------------------------------------------|--------|--------|
| Accounts Receivable—Employees | | | | |
| | | (\$40.00 + \$34.00) | 74.00 | |
| | | Nick Teasdale, Drawings | 170.00 | |
| | | Maintenance Expense | 14.35 | |
| | | Postage Expense (\$20.00 – \$7.90) | 12.10 | |
| | | Office Supplies | 7.90 | |
| | | Cash Over and Short | 11.45 | |
| | | Cash (\$300.00 – \$10.20) | | 289.80 |

***EXERCISE 7-25 (15–20 minutes)**

(a)

**KIPLING COMPANY
Bank Reconciliation
July 31**

| | |
|-------------------------------------------|--------------------------|
| Balance per bank statement, July 31 | £ 8,650 |
| Add: Deposits in transit | 2,850 ^a |
| Deduct: Outstanding checks | <u>1,100^b</u> |
| Correct cash balance, July 31 | <u>£10,400</u> |
| | |
| Balance per books, July 31 | £ 9,250 |
| Add: Collection of note | 1,500 |
| Less: Bank service charge | £ 15 |
| NSF check | <u>335</u> |
| Corrected cash balance, July 31 | <u>£10,400</u> |

^aComputation of deposits in transit

| | |
|-----------------------------------------|----------------|
| Deposits per books | £5,810 |
| Deposits per bank in July | £ 4,500 |
| Less deposits in transit (June) | <u>1,540</u> |
| Deposits mailed and received in July | <u>(2,960)</u> |
| Deposits in transit, July 31 | <u>£2,850</u> |

^bComputation of outstanding checks

| | |
|---------------------------------------|----------------|
| Checks written per books | £3,100 |
| Checks cleared by bank in July | £ 4,000 |
| Less outstanding checks (June)* | <u>2,000</u> |
| Checks written and cleared in July | <u>(2,000)</u> |
| Outstanding checks, July 31 | <u>£1,100</u> |

***Assumed to clear bank in July**

***EXERCISE 7-25 (Continued)**

| | | |
|------------------------------------|-------|-------|
| (b) Cash | 1,150 | |
| Office Expenses—Bank Charges | 15 | |
| Accounts Receivable | 335 | |
| Notes Receivable | | 1,500 |

***EXERCISE 7-26 (15–20 minutes)**

(a) **ARAGON COMPANY**
Bank Reconciliation, August 31, 2011
County National Bank

| | | |
|---------------------------------------------------------|--------------|-----------------|
| Balance per bank statement, August 31, 2011 | | \$ 8,089 |
| Add: Cash on hand | \$ 310 | |
| Deposits in transit | <u>3,800</u> | <u>4,110</u> |
| | | 12,199 |
| Deduct: Outstanding checks | | <u>1,550</u> |
| Correct cash balance | | <u>\$10,649</u> |
| Balance per books, August 31, 2011 | | |
| (\$10,050 + \$35,000 – \$35,403) | | \$ 9,647 |
| Add: Note (\$1,000) and interest (\$40) collected | | <u>1,040</u> |
| | | 10,687 |
| Deduct: Bank service charges | \$ 20 | |
| Understated check for supplies | <u>18</u> | <u>38</u> |
| Correct cash balance | | <u>\$10,649</u> |

| | | |
|---------------------------------------------|-------|-------|
| (b) Cash | 1,040 | |
| Notes Receivable | | 1,000 |
| Interest Revenue | | 40 |
| (To record collection of note and interest) | | |

***EXERCISE 7-26 (Continued)**

| | | |
|---------------------------------------------------|----|----|
| Office Expense—Bank Charges..... | 20 | |
| Cash..... | | 20 |
| (To record August bank charges) | | |
| Supplies Expense | 18 | |
| Cash..... | | 18 |
| (To record error in recording check for supplies) | | |

- (c) The corrected cash balance of \$10,649 would be reported in the August 31, 2011, balance sheet.

***EXERCISE 7-27 (15-25 minutes)**

- (a) Journal entry to record issuance of loan by Paris Bank:
December 31, 2010

| | | |
|------------------------------------|---------|--------|
| Notes Receivable..... | 100,000 | |
| Discount on Notes Receivable | | 37,908 |
| Cash | | 62,092 |

€100,000 X Present value of 1 for 5 periods at 10%

€100,000 X .62092 = €62,092

- (b) Note Amortization Schedule
(Before Impairment)

| Date | Cash Received (0%) | Interest Revenue (10%) | Increase in Carrying Amount | Carrying Amount of Note |
|----------|-----------------------|---------------------------|-----------------------------|-------------------------|
| 12/31/10 | | | | €62,092 |
| 12/31/11 | €0 | €6,209 | €6,209 | 68,301 |
| 12/31/12 | 0 | 6,830 | 6,830 | 75,131 |

***EXERCISE 7-27 (Continued)**

Computation of the impairment loss:

| | |
|------------------------------------------------|----------------|
| Carrying amount of investment (12/31/12) | €75,131 |
| Less: Present value of €75,000 due in 3 years | |
| at 10% (€75,000 X .75132) | <u>56,349</u> |
| Loss due to impairment..... | <u>€18,782</u> |

The entry to record the loss by Paris Bank is as follows:

| | | |
|---------------------------------------|--------|--------|
| Bad Debt Expense..... | 18,782 | |
| Allowance for Doubtful Accounts | | 18,782 |

Note: Iva Majoli Company, the debtor, makes no entry because it still legally owes €100,000.

***EXERCISE 7-28 (15-25 minutes)**

(a) Cash received by Conchita Martinez Company on December 31, 2010:

| | |
|--------------------------------------------------------|------------------|
| Present value of principal (\$1,000,000 X .56743)..... | \$567,430 |
| Present value of interest (\$100,000 X 3.60478)..... | <u>360,478</u> |
| Cash received | <u>\$927,908</u> |

(b) **Note Amortization Schedule
(Before Impairment)**

| Date | Cash Received (10%) | Interest Revenue (12%) | Increase in Carrying Amount | Carrying Amount of Note |
|----------|---------------------------|------------------------------|-----------------------------------|-------------------------------|
| 12/31/10 | | | | \$927,908 |
| 12/31/11 | \$100,000 | \$111,349 | \$11,349 | 939,257 |
| 12/31/12 | 100,000 | 112,711 | 12,711 | 951,968 |

***EXERCISE 7-28 (Continued)**

(c) Loss due to impairment:

| | | |
|--------------------------------------------------|-----------------------|-------------------------|
| Carrying amount of loan (12/31/12) | | \$951,968 |
| Less: Present value of \$600,000 due in | | |
| 3 years ($\$600,000 \times .71178$) | 427,068 | |
| Present value of \$100,000 payable annually | | |
| for 3 years ($\$100,000 \times 2.40183$) | <u>240,183</u> | <u>667,251</u> |
| Loss due to impairment | | <u>\$284,717</u> |

TIME AND PURPOSE OF PROBLEMS

Problem 7-1 (Time 20–25 minutes)

Purpose—to provide the student with an understanding of the statement of financial position effect that occurs when the cash book is left open. In addition, the student is asked to adjust the present statement of financial position to an adjusted statement of financial position, reflecting the proper cash presentation.

Problem 7-2 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to determine various items related to accounts receivable and the allowance for doubtful accounts. Five independent situations are provided.

Problem 7-3 (Time 20–30 minutes)

Purpose—to provide a short problem related to the aging of accounts receivable. The appropriate balance for doubtful accounts must be determined. In addition, the manner of reporting accounts receivable on the statement of financial position must be shown.

Problem 7-4 (Time 25–35 minutes)

Purpose—the student prepares an analysis of the changes in the allowance for doubtful accounts and supports it with an aging schedule. The adjusting entry is prepared.

Problem 7-5 (Time 20–30 minutes)

Purpose—a short problem that must be analyzed to make the necessary correcting entries. It is not a pencil-pushing problem but requires a great deal of conceptualization. A good problem for indicating the types of adjustments that might occur in the receivables area.

Problem 7-6 (Time 25–35 minutes)

Purpose—to provide the student with a number of business transactions related to notes and accounts receivable that must be journalized. Recoveries of receivables, and write-offs are the types of transactions presented. The problem provides a good cross section of a number of accounting issues related to receivables.

Problem 7-7 (Time 25–30 minutes)

Purpose—a short problem involving the reporting problems associated with the assignment of accounts receivable. The student is required to make the journal entries necessary to record an assignment. A straightforward problem.

Problem 7-8 (Time 30–35 minutes)

Purpose—to provide the student with a simple note receivable problem with no imputation of interest.

Problem 7-9 (Time 30–35 minutes)

Purpose—to provide the student with a problem requiring the imputation of interest. The student is required to make journal entries on a series of dates when note installments are collected. A relatively straightforward problem.

Problem 7-10 (Time 40–50 minutes)

Purpose—the student calculates the current portion of long-term receivables and interest receivable, and prepares the long-term receivables section of the statement of financial position. Then the student prepares a schedule showing interest income. The problem includes interest-bearing and zero-interest-bearing notes and an installment receivable.

Problem 7-11 (Time 20–25 minutes)

Purpose—to provide the student the opportunity to record the sales of receivables with and without guarantee (recourse) and determine the income effects.

Time and Purpose of Problems (Continued)

***Problem 7-12** (Time 20–25 minutes)

Purpose—to provide the student the opportunity to do the accounting for petty cash and a bank reconciliation.

***Problem 7-13** (Time 20–30 minutes)

Purpose—to provide the student with the opportunity to prepare a bank reconciliation which is reconciled to a corrected balance. Traditional types of adjustments are presented. Journal entries are also required.

***Problem 7-14** (Time 20–30 minutes)

Purpose—to provide the student with the opportunity to prepare a bank reconciliation which goes from balance per bank to corrected balance. Traditional types of adjustments are presented such as deposits in transit, bank service charges, NSF checks, and so on. Journal entries are also required.

***Problem 7-15** (Time 30–40 minutes)

Purpose—to provide the student with a loan impairment situation that requires entries by both the debtor and the creditor and an analysis of the loss on impairment.

SOLUTIONS TO PROBLEMS

PROBLEM 7-1

| | | | |
|-----|--------------------------------------------|--------|--------|
| (a) | December 31 | | |
| | Accounts Receivable (€17,640 + €360) | 18,000 | |
| | Sales | 28,000 | |
| | Cash | | 45,640 |
| | Sales Discounts | | 360 |

| | | | |
|--|--------------------------|--------|--------|
| | December 31 | | |
| | Cash | 22,200 | |
| | Purchase Discounts | 250 | |
| | Accounts Payable..... | | 22,450 |

| | | | |
|-----|-----------------------------------------|--------------------------|-------------------|
| (b) | | <u>Per Balance</u> | <u>After</u> |
| | | <u>Sheet</u> | <u>Adjustment</u> |
| | Current assets | | |
| | Inventories | € 67,000 | € 67,000 |
| | Receivables (€42,000 + €18,000) | 42,000 | 60,000 |
| | Cash (€39,000 – €45,640 + €22,200)..... | <u>39,000</u> | <u>15,560</u> |
| | Total | (1) <u>148,000</u> | <u>142,560</u> |
| | Current liabilities | | |
| | Accounts payable | | |
| | (€45,000 + €22,450)..... | 45,000 | 67,450 |
| | Other current liabilities | <u>14,200</u> | <u>14,200</u> |
| | Total | (2) <u>59,200</u> | <u>81,650</u> |
| | Working capital | (1) – (2) <u>€88,800</u> | <u>€60,910</u> |
| | Current ratio | (1) ÷ (2) 2.5 to 1 | 1.75 to 1 |

| |
|--------------------|
| PROBLEM 7-2 |
|--------------------|

| | |
|-------------------------------------------------------------------------------|--------------------|
| 1. Net sales..... | \$1,200,000 |
| Percentage | <u>X 1 1/2%</u> |
| Bad debt expense | <u>\$ 18,000</u> |
| 2. Accounts receivable | \$1,750,000 |
| Amounts estimated to be uncollectible..... | <u>(180,000)</u> |
| Net realizable value | <u>\$1,570,000</u> |
| 3. Allowance for doubtful accounts 1/1/10..... | \$ 17,000 |
| Establishment of accounts written off in prior years..... | 8,000 |
| Customer accounts written off in 2010..... | (30,000) |
| Bad debt expense for 2010 (\$2,400,000 X 3%)..... | <u>72,000</u> |
| Allowance for doubtful accounts 12/31/10 | <u>\$ 67,000</u> |
| 4. Bad debt expense for 2010 | \$ 84,000 |
| Customer accounts written off as uncollectible during 2010..... | <u>(24,000)</u> |
| Allowance for doubtful accounts balance 12/31/10..... | <u>\$ 60,000</u> |
| Accounts receivable, net of allowance for doubtful Accounts..... | \$ 950,000 |
| Allowance for doubtful accounts balance 12/31/10..... | <u>60,000</u> |
| Accounts receivable, before deducting allowance for doubtful accounts..... | <u>\$1,010,000</u> |
| 5. Accounts receivable | \$ 310,000 |
| Percentage | <u>X 3%</u> |
| Bad debt expense, before adjustment | 9,300 |
| Allowance for doubtful accounts (debit balance) | <u>14,000</u> |
| Bad debt expense, as adjusted | <u>\$ 23,300</u> |

PROBLEM 7-3

- (a) The Allowance for Doubtful Accounts should have a balance of \$45,000 at year-end. The supporting calculations are shown below:

| Days Account Outstanding | Amount | Expected Percentage Uncollectible | Estimated Uncollectible |
|---------------------------------------------|-----------|-----------------------------------|-------------------------|
| 0–15 days | \$300,000 | .02 | \$ 6,000 |
| 16–30 days | 100,000 | .10 | 10,000 |
| 31–45 days | 80,000 | .15 | 12,000 |
| 46–60 days | 40,000 | .20 | 8,000 |
| 61–75 days | 20,000 | .45 | <u>9,000</u> |
| Balance for Allowance for Doubtful Accounts | | | <u>\$45,000</u> |

The accounts which have been outstanding over 75 days (\$15,000) and have zero probability of collection would be written off immediately by a debit to Allowance for Doubtful Accounts for \$15,000 and a credit to Accounts Receivable for \$15,000. It is not considered when determining the proper amount for the Allowance for Doubtful Accounts.

| | | |
|-----|-------------------------------------------------|------------------|
| (b) | Accounts receivable (\$555,000 – \$15,000)..... | \$540,000 |
| | Less: Allowance for doubtful accounts..... | <u>45,000</u> |
| | Accounts receivable (net)..... | <u>\$495,000</u> |

- (c) The year-end bad debt adjustment would decrease before-tax income \$20,000 as computed below:

| | |
|--------------------------------------------------------------------------------------------------------------------|-----------------|
| Estimated amount required in the Allowance for Doubtful Accounts..... | \$45,000 |
| Balance in the account after write-off of uncollectible accounts but before adjustment (\$40,000 – \$15,000) | <u>25,000</u> |
| Required charge to expense | <u>\$20,000</u> |

PROBLEM 7-4

(a)

FORTNER CORPORATION
Analysis of Changes in the
Allowance for Doubtful Accounts
For the Year Ended December 31, 2010

| | |
|------------------------------------------------------------------------------------------|------------------------|
| Balance at January 1, 2010 | £130,000 |
| Provision for doubtful accounts (£9,000,000 X 2%) | 180,000 |
| Recovery in 2010 of bad debts written off previously | <u>15,000</u> |
| | 325,000 |
| Deduct write-offs for 2010 (£90,000 + £60,000) | <u>150,000</u> |
| Balance at December 31, 2010 before change in accounting estimate | 175,000 |
| Increase due to change in accounting estimate during 2010 (£263,600 – £175,000) | <u>88,600</u> |
| Balance at December 31, 2010 adjusted (Schedule 1) | <u><u>£263,600</u></u> |

Schedule 1

Computation of Allowance for Doubtful Accounts
at December 31, 2010

| Aging Category | Balance | % | Doubtful Accounts |
|---------------------------|----------------|----------|------------------------------|
| Nov–Dec 2010 | £1,080,000 | 2 | £ 21,600 |
| July–Oct | 650,000 | 10 | 65,000 |
| Jan–Jun | 420,000 | 25 | 105,000 |
| Prior to 1/1/10 | 90,000(a) | 80 | <u>72,000</u> |
| | | | <u><u>£263,600</u></u> |

(a) £150,000 – £60,000

PROBLEM 7-4 (Continued)

(b) The journal entry to record this transaction is as follows:

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|
| Bad Debt Expense..... | 88,600 | |
| Allowance for Doubtful Accounts | | 88,600 |
| (To increase the allowance for doubtful accounts at December 31, 2010, resulting from a change in accounting estimate) | | |

| |
|--------------------|
| PROBLEM 7-5 |
|--------------------|

| | | |
|--------------------------------------------------------------------|--------------------|----------|
| Bad Debt Expense | 3,240 | |
| Accounts Receivable | | 3,240 |
| (To correct bad debt expense and write off accounts receivable) | | |
| Accounts Receivable | 4,840 | |
| Advance on Sales Contract | | 4,840 |
| (To reclassify credit balance in accounts receivable) | | |
| Allowance for Doubtful Accounts | 3,700 | |
| Accounts Receivable | | 3,700 |
| (To write off \$3,700 of uncollectible accounts) | | |
| Allowance for Doubtful Accounts | 7,279.64 | |
| Bad Debt Expense | | 7,279.64 |
| (To reduce allowance for doubtful account balance) | | |
| Balance (\$8,750 + \$18,620 – \$3,240 – \$3,700) | \$20,430.00 | |
| Corrected balance (see below) | <u>(13,150.36)</u> | |
| Adjustment | <u>\$ 7,279.64</u> | |

| Age | Balance | Aging Schedule | |
|---------------|-------------------------------|-------------------|--------------------|
| Under 60 days | \$172,342 | 1% | \$ 1,723.42 |
| 60–90 days | 141,330 (\$136,490 + \$4,840) | 3% | 4,239.90 |
| 91–120 days | 36,684 (\$39,924 – \$3,240) | 6% | 2,201.04 |
| Over 120 days | 19,944 (\$23,644 – \$3,700) | 25% | 4,986.00 |
| | | | <u>\$13,150.36</u> |

PROBLEM 7-5 (Continued)

If the student did not make the entry to record the \$3,700 write-off earlier, the following would change in the problem. After the adjusting entry for \$7,279.64, an entry would have to be made to write off the \$3,700.

| | |
|---------------------------------------------|--------------------|
| Balance (\$8,750 + \$18,620 – \$3,240)..... | \$24,130.00 |
| Corrected balance (see below) | <u>(16,850.36)</u> |
| Adjustment | <u>\$ 7,279.64</u> |

| Age | Balance | Aging Schedule | |
|---------------|-----------|-------------------|--------------------|
| Under 60 days | \$172,342 | 1% | \$ 1,723.42 |
| 60–90 days | 141,330 | 3% | 4,239.90 |
| 91–120 days | 36,684 | 6% | 2,201.04 |
| Over 120 days | 23,644 | — | <u>8,686.00*</u> |
| | | | <u>\$16,850.36</u> |

*\$3,700 + (25% X \$19,944)

| |
|--------------------|
| PROBLEM 7-6 |
|--------------------|

–1–

| | | |
|---------------------------|----------|---------|
| Cash | 136,800* | |
| Sales Discounts..... | 1,200 | |
| Accounts Receivable | | 138,000 |

*[\$138,000 – (\$60,000 X 2%)]

–2–

| | | |
|--------------------------------------|-------|-------|
| Accounts Receivable | 5,300 | |
| Allowance for Doubtful Accounts..... | | 5,300 |

| | | |
|---------------------------|-------|-------|
| Cash | 5,300 | |
| Accounts Receivable | | 5,300 |

–3–

| | | |
|---------------------------------------|--------|--------|
| Allowance for Doubtful Accounts | 17,500 | |
| Accounts Receivable | | 17,500 |

–4–

| | | |
|--------------------------------------|--------|---------|
| Bad Debt Expense | 14,900 | |
| Allowance for Doubtful Accounts..... | | 14,900* |

*($\$17,300 + \$5,300 - \$17,500 = \$5,100$;

$\$20,000 - \$5,100 = \$14,900$)

| |
|--------------------|
| PROBLEM 7-7 |
|--------------------|

(000's omitted)

July 1, 2010

| | | |
|---------------------------------------|---------|---------|
| Cash | 119,250 | |
| Finance Charge (.005 X ¥150,000)..... | 750 | |
| Notes Payable (80% X ¥150,000)..... | | 120,000 |

July 31, 2010

| | | |
|----------------------------------------------|--------|--------|
| Notes Payable..... | 80,000 | |
| Accounts Receivable..... | | 80,000 |
| Finance Charge | 350 | |
| Finance Charge Payable (.005 X ¥70,000)..... | | 350 |

August 31, 2010

| | | |
|-----------------------------------------------------------------|--------|--------|
| Notes Payable..... | 40,000 | |
| Cash* | 9,550 | |
| Finance Charge (.005 X [¥150,000 – ¥80,000 – ¥50,000]) | 100 | |
| Finance Charge Payable | 350 | |
| Accounts Receivable..... | | 50,000 |

| | | |
|------------------------------------------------------------------------------------|----------------|--|
| *Total cash collection..... | ¥50,000 | |
| Less: Finance charge payable (from previous entry) | 350 | |
| Finance charge (current month) [(0.005 X (¥150,000 – ¥80,000 – ¥50,000))] | 100 | |
| Note payable (balance) (¥120,000 – ¥80,000) | <u>40,000</u> | |
| Cash collected..... | <u>¥ 9,550</u> | |

| |
|--------------------|
| PROBLEM 7-8 |
|--------------------|

| | | | |
|----------|-------------------------------------------|---------|---------|
| 10/1/10 | Notes Receivable | 120,000 | |
| | Sales | | 120,000 |
| 12/31/10 | Interest Receivable..... | 2,400* | |
| | Interest Revenue | | 2,400 |
| | *\$120,000 X .08 X 3/12 = <u>\$2,400</u> | | |
| 10/1/11 | Cash | 9,600* | |
| | Interest Receivable..... | | 2,400 |
| | Interest Revenue | | 7,200** |
| | *\$120,000 X .08 = <u>\$9,600</u> | | |
| | **\$120,000 X .08 X 9/12 = <u>\$7,200</u> | | |
| 12/31/11 | Interest Receivable..... | 2,400 | |
| | Interest Revenue | | 2,400 |
| 10/1/12 | Cash | 9,600 | |
| | Interest Receivable..... | | 2,400 |
| | Interest Revenue | | 7,200 |
| | Cash | 120,000 | |
| | Notes Receivable | | 120,000 |

Note: Entries at 10/1/11 and 10/1/12 assumes reversing entries were not made on January 1, 2011 and January 1, 2012.

PROBLEM 7-9

| | | | |
|-----|--------------------------|--------|---------|
| (a) | December 31, 2010 | | |
| | Cash | 40,000 | |
| | Notes Receivable | 62,049 | |
| | Service Revenue | | 102,049 |

To record revenue at the present value of the note plus the immediate cash payment:

| | |
|-------------------------------------|------------------|
| PV of \$20,000 annuity @ 11% for | |
| 4 years (\$20,000 X 3.10245)..... | \$ 62,049 |
| Down payment | 40,000 |
| Capitalized value of services | <u>\$102,049</u> |

| | | | |
|-----|--------------------------|--------|--------|
| (b) | December 31, 2011 | | |
| | Cash | 20,000 | |
| | Notes Receivable | | 20,000 |
| | Notes Receivable | 6,825 | |
| | Interest Revenue | | 6,825 |

Schedule of Note Discount Amortization

| Date | Cash Received | Interest Revenue | Carrying Amount of Note |
|----------|------------------|----------------------|----------------------------|
| 12/31/10 | — | — | \$62,049 |
| 12/31/11 | \$20,000 | \$6,825 ^a | 48,874 ^b |
| 12/31/12 | 20,000 | 5,376 | 34,250 |
| 12/31/13 | 20,000 | 3,768 | 18,018 |
| 12/31/14 | 20,000 | 1,982 | — |

^a\$6,825 = \$62,049 X 11%

^b\$48,874 = \$62,049 + \$6,825 – \$20,000

PROBLEM 7-9 (Continued)

| | | | |
|------------------------|--------------------------|--------|--|
| (c) | December 31, 2012 | | |
| Cash | 20,000 | | |
| Notes Receivable..... | | 20,000 | |
| Notes Receivable | 5,376 | | |
| Interest Revenue..... | | 5,376 | |
| (d) | December 31, 2013 | | |
| Cash | 20,000 | | |
| Notes Receivable..... | | 20,000 | |
| Notes Receivable | 3,768 | | |
| Interest Revenue..... | | 3,768 | |
| (e) | December 31, 2014 | | |
| Cash | 20,000 | | |
| Notes Receivable..... | | 20,000 | |
| Notes Receivable | 1,982 | | |
| Interest Revenue..... | | 1,982 | |

| |
|---------------------|
| PROBLEM 7-10 |
|---------------------|

(a) **BRADDOCK INC.**
Long-Term Receivables Section of Statement of Financial Position
December 31, 2010

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----|
| 9% note receivable from sale of division, due in annual installments of \$500,000 to May 1, 2012, less current installment..... | \$ 500,000 | (1) |
| 8% note receivable from officer, due Dec. 31, 2012, collateralized by 10,000 shares of Braddock, Inc., common stock with a fair value of \$450,000..... | 400,000 | |
| Zero-interest-bearing note from sale of patent, net of 12% imputed interest, due April 1, 2012 | 86,873 | (2) |
| Installment contract receivable, due in annual installments of \$45,125 to July 1, 2014, less current installment..... | <u>110,275</u> | (3) |
| Total long-term receivables | <u>\$1,097,148</u> | |

(b) **BRADDOCK INC.**
Partial Statement of Financial Position Balances
December 31, 2010

| | | |
|-----------------------------------------------------|------------------|-----|
| Current portion of long-term receivables: | | |
| Note receivable from sale of division..... | \$500,000 | (1) |
| Installment contract receivable | <u>29,725</u> | (3) |
| Total current portion of long-term receivables..... | <u>\$529,725</u> | |
| Accrued interest receivable: | | |
| Note receivable from sale of division..... | 60,000 | (4) |
| Installment contract receivable | <u>7,700</u> | (5) |
| Total accrued interest receivable | <u>\$ 67,700</u> | |

PROBLEM 7-10 (Continued)**(c)****BRADDOCK INC.****Interest Revenue from Long-Term Receivables****For the Year Ended December 31, 2010****Interest income:**

| | | |
|---------------------------------------------------------|------------------|-----|
| Note receivable from sale of division | \$105,000 | (6) |
| Note receivable from sale of patent | 7,173 | (2) |
| Note receivable from officer | 32,000 | (7) |
| Installment contract receivable from sale of land | <u>7,700</u> | (5) |
| Total interest income for year ended 12/31/10..... | <u>\$151,873</u> | |

Explanation of Amounts**(1) Long-term Portion of 9% Note Receivable at 12/31/10**

| | |
|----------------------------------------|-------------------|
| Face amount, 5/1/09 | \$1,500,000 |
| Less: Installment received 5/1/10..... | <u>500,000</u> |
| Balance, 12/31/10 | 1,000,000 |
| Less: Installment due 5/1/11 | <u>500,000</u> |
| Long-term portion, 12/31/10 | <u>\$ 500,000</u> |

**(2) Zero-interest-bearing Note, Net of Imputed Interest
at 12/31/10**

| | |
|----------------------------------------|------------------|
| Face amount 4/1/10 | \$ 100,000 |
| Less: Imputed interest | |
| [\$100,000 – (\$100,000 X 0.797)]..... | <u>20,300</u> |
| Balance, 4/1/09..... | 79,700 |
| Add: Interest earned to 12/31/10 | |
| (\$79,700 X 12% X 9/12)..... | <u>7,173</u> |
| Balance, 12/31/10 | <u>\$ 86,873</u> |

PROBLEM 7-10 (Continued)

(3) Long-term Portion of Installment Contract

Receivable at 12/31/10

| | |
|--------------------------------------|-------------------|
| Contract selling price, 7/1/10 | \$ 200,000 |
| Less: Down payment, 7/1/10 | <u>60,000</u> |
| Balance, 12/31/10 | 140,000 |
| Less: Installment due, 7/1/12 | |
| [\$45,125 – (\$140,000 X 11%)] | <u>29,725</u> |
| Long-term portion, 12/31/11 | <u>\$ 110,275</u> |

(4) Accrued Interest—Note Receivable, Sale of Division at 12/31/10

Interest accrued from 5/1 to 12/31/10

| | |
|---------------------------------|------------------|
| (\$1,000,000 X 9% X 8/12) | <u>\$ 60,000</u> |
|---------------------------------|------------------|

(5) Accrued Interest—Installment Contract at 12/31/10

Interest accrued from 7/1 to 12/31/10

| | |
|-------------------------------|-----------------|
| (\$140,000 X 11% X 1/2) | <u>\$ 7,700</u> |
|-------------------------------|-----------------|

(6) Interest Revenue—Note Receivable, Sale of Division, for 2010

Interest earned from 1/1 to 5/1/2010

| | |
|---------------------------------|-----------|
| (\$1,500,000 X 9% X 4/12) | \$ 45,000 |
|---------------------------------|-----------|

Interest earned from 5/1 to 12/31/10

| | |
|---------------------------------|---------------|
| (\$1,000,000 X 9% X 8/12) | <u>60,000</u> |
|---------------------------------|---------------|

| | |
|-----------------------|-------------------|
| Interest income | <u>\$ 105,000</u> |
|-----------------------|-------------------|

(7) Interest Revenue—Note Receivable, Officer, for 2010

Interest earned 1/1/ to 12/31/10

| | |
|------------------------|------------------|
| (\$400,000 X 8%) | <u>\$ 32,000</u> |
|------------------------|------------------|

PROBLEM 7-11

SANDBURG COMPANY
Income Statement Effects
For the Year Ended December 31, 2010

| | |
|---------------------------------------------------------------------------------|-----------------------|
| Expenses resulting from accounts receivable assigned (Schedule 1) | €22,320 |
| Loss resulting from accounts receivable sold (€300,000 – €270,000) | <u>30,000</u> |
| Total expenses | <u>€52,320</u> |

Schedule 1

**Computation of Expense
for Accounts Receivable Assigned**

| | | | |
|------------------------------------------------|---------------------|-----------------------|--|
| Assignment expense: | | | |
| Accounts receivable assigned | €400,000 | | |
| | <u>X 80%</u> | | |
| Advance by Keller Finance Company | 320,000 | | |
| | <u>X 3%</u> | € 9,600 | |
| Interest expense | | <u>12,720</u> | |
| Total expenses | | <u>€22,320</u> | |

***PROBLEM 7-12**

| | | | |
|-----|-----------------------------------------------------|--------------|---------------|
| (a) | Petty Cash | 250.00 | |
| | Cash | | 250.00 |
| | Postage Expense | 33.00 | |
| | Supplies | 65.00 | |
| | Accounts Receivable—Employees | 30.00 | |
| | Shipping Expense..... | 57.45 | |
| | Advertising Expense..... | 22.80 | |
| | Misc. Expense | 15.35 | |
| | Cash (£250.00 – £26.40)..... | | 223.60 |
| | Petty Cash | 50.00 | |
| (b) | Cash | | 50.00 |
| | Balances per bank:..... | | £6,522 |
| | Add: | | |
| | Cash on hand..... | £ 246 | |
| | Deposit in transit | <u>3,000</u> | <u>3,246</u> |
| | | | 9,768 |
| | Deduct: Checks outstanding..... | | <u>850</u> |
| | Correct cash balance, May 31 | | <u>£8,918</u> |
| | Balance per books: | | £8,015* |
| | Add: Note receivable (collected with interest)..... | | <u>930</u> |
| (c) | | | 8,945 |
| | Deduct: Bank Service Charges | | <u>27</u> |
| | Correct cash balance, May 31 | | <u>£8,918</u> |
| | *(£8,850 + £31,000 – £31,835) | | |
| | Cash..... | 930 | |
| | Note Receivable | | 900 |
| | Interest Revenue..... | | 30 |
| | Office Expense—Bank Charges..... | 27 | |
| | Cash..... | | 27 |
| | £8,918 + £300 = £9,218. | | |

***PROBLEM 7-13**

(a)

**AGUILAR CO.
Bank Reconciliation
June 30, 2010**

| | | | |
|----------------------------------------------------|----|------------------------|--------------------------|
| Balance per bank, June 30..... | | | \$4,150.00 |
| Add: Deposits in transit..... | | | 3,390.00 |
| Deduct: Outstanding checks | | | <u>2,136.05</u> |
| Correct cash balance, June 30 | | | <u>\$5,403.95</u> |
| Balance per books, June 30 | | | \$3,969.85 |
| Add: Error in recording deposit (\$90 – \$60)..... | \$ | 30.00 | |
| Error on check no. 747 | | | |
| (\$582.00 – \$58.20)..... | | 523.80 | |
| Note collection (\$1,200 + \$36) | | <u>1,236.00</u> | <u>1,789.80</u> |
| | | | 5,759.65 |
| Deduct: NSF check..... | | 253.20 | |
| Error on check no. 742 (\$491 – \$419)..... | | 72.00 | |
| Bank service charges (\$25 + \$5.50) | | <u>30.50</u> | <u>355.70</u> |
| Correct cash balance, June 30 | | | <u>\$5,403.95</u> |

| | | |
|-----------------------------------|----------|----------|
| (b) Cash | 1,789.80 | |
| Accounts Receivable | | 30.00* |
| Accounts Payable | | 523.80** |
| Notes Receivable | | 1,200.00 |
| Interest Revenue | | 36.00 |
| Accounts Receivable..... | 253.20 | |
| Accounts Payable..... | 72.00*** | |
| Office Expense—Bank Charges | 30.50 | |
| Cash..... | | 355.70 |

*Assumes sale was on account and not a cash sale.

**Assumes that the purchase of the equipment was recorded at its proper price. If a straight cash purchase, then Equipment should be credited instead of Accounts Payable.

***If a straight cash purchase, then Equipment should be debited instead of Accounts Payable.

***PROBLEM 7-14**

**(a) HASELHOF INC.
Bank Reconciliation
November 30**

| | | |
|-----------------------------------------------|----------------------|---------------------------|
| Balance per bank statement, November 30 | | \$56,274.20 |
| Add: | | |
| Cash on hand, not deposited | | <u>1,915.40</u> |
| | | 58,189.60 |
| Deduct: | | |
| Outstanding checks | | |
| #1224 | \$1,635.29 | |
| #1230 | 2,468.30 | |
| #1232 | 2,125.15 | |
| #1233 | <u>482.17</u> | <u>6,710.91</u> |
| Correct cash balance, Nov. 30 | | <u>\$51,478.69</u> |
| Balance per books, November 30 | | \$50,478.22* |
| Add: | | |
| Bond interest collected by bank | | <u>1,400.00</u> |
| | | 51,878.22 |
| Deduct: | | |
| Bank charges not recorded in books | \$ 27.40 | |
| Customer's check returned NSF | <u>372.13</u> | <u>399.53</u> |
| Correct cash balance, Nov. 30 | | <u>\$51,478.69</u> |

***Computation of balance per books,
November 30**

| | |
|-----------------------------------------|----------------------------|
| Balance per books, October 31 | \$ 41,847.85 |
| Add receipts for November | <u>173,523.91</u> |
| | 215,371.76 |
| Deduct disbursements for November | <u>164,893.54</u> |
| Balance per books, November 30 | <u>\$ 50,478.22</u> |

***PROBLEM 7-14 (Continued)**

| | | | |
|------------------------------|--------------------|-----------------|-----------------|
| (b) | November 30 | | |
| Cash | | 1,400.00 | |
| Interest Revenue..... | | | 1,400.00 |

| | | | |
|-----------------------------------------|--------------------|--------------|--------------|
| | November 30 | | |
| Office Expense—Bank Charges..... | | 27.40 | |
| Cash..... | | | 27.40 |

| | | | |
|----------------------------------|--------------------|---------------|---------------|
| | November 30 | | |
| Accounts Receivable | | 372.13 | |
| Cash..... | | | 372.13 |

***PROBLEM 7-15**

- (a) The entries for the issuance of the note on January 1, 2010:

The present value of the note is: $\$1,200,000 \times .68058 = \$816,700$
(Rounded by \$4).

Botosan Company (Debtor):

| | | |
|--------------------|---------|---------|
| Cash | 816,700 | |
| Note Payable | | 816,700 |

National Organization Bank (Creditor):

| | | |
|-----------------------|---------|---------|
| Notes Receivable..... | 816,700 | |
| Cash | | 816,700 |

- (b) The amortization schedule for this note is:

**SCHEDULE FOR INTEREST AND DISCOUNT AMORTIZATION—
EFFECTIVE-INTEREST METHOD
\$1,200,000 Note Issued to Yield 8%**

| <u>Date</u> | <u>Cash Paid</u> | <u>Interest Expense</u> | <u>Discount Amortized</u> | <u>Carrying Amount of Note</u> |
|--------------|----------------------|-----------------------------|-------------------------------|----------------------------------------|
| 1/1/10 | | | | \$ 816,700 |
| 12/31/10 | \$0 | \$ 65,336* | \$ 65,336 | 882,036** |
| 12/31/11 | 0 | 70,563 | 70,563 | 952,599 |
| 12/31/12 | 0 | 76,208 | 76,208 | 1,028,807 |
| 12/31/13 | 0 | 82,305 | 82,305 | 1,111,112 |
| 12/31/14 | 0 | 88,888 | 88,888 | 1,200,000 |
| Total | <u>\$0</u> | <u>\$383,300</u> | <u>\$383,300</u> | |

* $\$816,700 \times 8\% = \$65,336$.

** $\$816,700 + \$65,336 = \$882,036$.

***PROBLEM 7-15 (Continued)**

(c) The note can be considered to be impaired only when it is probable that, based on current information and events, National Organization Bank will be unable to collect all amounts due (both principal and interest) according to the contractual terms of the loan.

(d) The loss is computed as follows:

| | |
|---------------------------------------------------------------|------------------------------|
| Carrying amount of loan (12/31/11) | \$952,599 ^a |
| Less: Present value of \$800,000 due in 3 years at 8%..... | <u>(635,064)^b</u> |
| Loss due to impairment..... | <u>\$317,535</u> |

^aSee amortization schedule from answer (b).

^b\$800,000 X .79383 = \$635,064.

December 31, 2011

National Organization Bank (Creditor):

| | | |
|--------------------------------------|---------|---------|
| Bad Debt Expense | 317,535 | |
| Allowance for Doubtful Accounts..... | | 317,535 |

Note: Botosan Company (Debtor) has no entry.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 7-1 (Time 10–15 minutes)

Purpose—to provide the student with the opportunity to discuss the deficiencies of the direct write-off method, the justification for two allowance methods for estimating bad debts, and to explain the accounting for the recoveries of accounts written off previously.

CA 7-2 (Time 15–20 minutes)

Purpose—to provide the student with the opportunity to discuss the accounting for cash discounts, trade discounts, and the factoring of accounts receivable.

CA 7-3 (Time 25–30 minutes)

Purpose—to provide the student with the opportunity to discuss the advantages and disadvantages of handling reporting problems related to the Allowance for Doubtful Accounts balance. Recommendations must be made concerning whether some type of allowance approach should be employed, how collection expenses should be handled, and finally, the appropriate accounting treatment for recoveries. A very complete case which should elicit a good discussion of this issue.

CA 7-4 (Time 25–30 minutes)

Purpose—to provide the student the opportunity to discuss when interest revenue from a note receivable is reported. In Part 2, the student is asked to contrast the estimation of bad debts based on credit sales with that based on the balance in receivables, and to describe the reporting of the allowance account and the bad debts expense.

CA 7-5 (Time 25–30 minutes)

Purpose—to provide the student the opportunity to prepare an accounts receivable aging schedule, compute the amount of the adjustment, and prepare the journal entry to adjust the allowance. Then the student is asked to identify steps to improve collection and evaluate each step in terms of risks and costs involved.

CA 7-6 (Time 20–25 minutes)

Purpose—to provide the student with a discussion problem related to notes receivable sold without and with recourse.

CA 7-7 (Time 20–30 minutes)

Purpose—to provide the student the opportunity to account for a zero-interest-bearing note is exchanged for a unique machine. The student must consider valuation, financial statement disclosure, and factoring the note.

CA 7-8 (Time 25–30 minutes)

Purpose—to provide the student the opportunity to calculate interest revenue on an interest-bearing note and a zero-interest-bearing note, and indicate how the notes should be reported on the statement of financial position. The student discusses how to account for collections on assigned accounts receivable and how to account for factored accounts receivable.

CA 7-9 (Time 25–30 minutes)

Purpose—to provide the student with a case related to the imputation of interest. One company has overstated its income by not imputing an interest element on the zero-interest-bearing note receivable that it received in the transaction. We have presented a short analysis to indicate what the proper solution should be. It is unlikely that the students will develop a journal entry with dollar amounts, but they should be encouraged to do so.

CA 7-10 (Time 25–30 minutes)

Purpose—to provide the student with a case to analyze receivables irregularities, including a shortage. This is a good writing assignment.

CA 7-11 (Time 25–30 minutes)

Purpose—to provide the student with a case to analyze ethical issues inherent in bad debt judgments.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 7-1

- (a) The direct write-off method overstates the trade accounts receivable on the statement of financial position by reporting them at more than their cash realizable value. Furthermore, because the write-off often occurs in a period after the revenues were generated, the direct write-off method does not match bad debts expense with the revenues generated by sales in the same period.
- (b) One allowance method estimates bad debts based on credit sales. The method focuses on the income statement and attempts to match bad debts with the revenues generated by the sales in the same period.

The other allowance method estimates bad debts based on the balance in the trade accounts receivable account. The method focuses on the statement of financial position and attempts to value the accounts receivable at their net realizable value.

- (c) The company should account for the collection of the specific accounts previously written off as uncollectible as follows:
 - Reinstatement of accounts by debiting Accounts Receivable and crediting Allowance for Doubtful Accounts.
 - Collection of accounts by debiting Cash and crediting Accounts Receivable.

CA 7-2

- (a) (1) Kimmel should account for the sales discounts at the date of sale using the net method by recording accounts receivable and sales revenue at the amount of sales less the sales discounts available.

Revenues should be recorded at the cash-equivalent price at the date of sale. Under the net method, the sale is recorded at an amount that represents the cash-equivalent price at the date of exchange (sale).

- (2) There is no effect on Kimmel's sales revenues when customers do not take the sales discounts. Kimmel's net income is increased by the amount of interest (discount) earned when customers do not take the sales discounts.
- (b) Trade discounts are neither recorded in the accounts nor reported in the financial statements. Therefore, the amount recorded as sales revenues and accounts receivable is net of trade discounts and represents the cash-equivalent price of the asset sold.
- (c) To account for the accounts receivable factored on August 1, 2010, Kimmel should decrease accounts receivable by the amount of accounts receivable factored, increase cash by the amount received from the factor, and record a loss. Factoring of accounts receivable on a without guarantee (recourse) basis is equivalent to a sale. The difference between the cash received and the carrying amount of the receivables is a loss.
- (d) Kimmel should report the face amount of the interest-bearing notes receivable and the related interest receivable for the period from October 1 through December 31 on its statement of financial position as noncurrent assets. Both assets are due on September 30, 2012, which is more than one year from the date of the statement of financial position.

CA 7-2 (Continued)

Kimmel should report interest revenue from the notes receivable on its income statement for the year ended December 31, 2010. Interest revenue is equal to the amount accrued on the notes receivable at the appropriate rate for three months.

Interest revenue is realized with the passage of time. Accordingly, interest revenue should be accounted for as an element of income over the life of the notes receivable.

CA 7-3

- (1) **Allowances and charge-offs.** Method (a) is recommended. In the case of this company which has a large number of relatively small sales transactions, it is practicable to give effect currently to the probable bad debt expense. Whenever practicable, it is advisable to accrue probable bad debt charges and apply them in the accounting periods in which the related sales are credited. If the percentage is based on actual long-run experience, the allowance balance is usually adequate to bring the accounts receivable in the balance sheet to realizable values. However, the method does not preclude a periodic review of the accounts receivable for the purpose of estimating probable losses in relation to the allowance balance and adjustment for an inadequate or excessive allowance. Therefore method (b) is technically not wrong, but perhaps could be used in conjunction with method (a). Method (b) does not seem as appropriate here because of the probable large number of accounts involved and therefore a percentage-of-sales basis should provide a better “matching” of expenses with revenues.
- (2) **Collection expenses.** Method (a) or (b) is recommended. In the case of this company, one strong argument for method (a) is that it is advisable to have the Bad Debt Expense account show the full amount of expense relating to efforts to collect and failure to collect balances receivable. On the other hand, an argument can be made to debit the Allowance account on the theory that bad debts (including related expenses) are established at the time the allowance is first established. As a result, the allowance account already has anticipated these expenses and therefore as they occur they should be charged against the allowance account. It should be noted that there is no “right answer” to this question. It would seem that alternatives (c) and (d) are not good alternatives because the expense is not identified with bad debts, which it should be.
- (3) **Recoveries.** Method (c) is recommended. This method treats the recovery as a correction of a previous write-off. It produces an allowance account that reflects the net experience with bad debts. Method (a) might be acceptable if the provision for bad debts were based on experience with losses without considering recoveries, but in this case it would be advisable to use one account with a specific designation rather than the broad designation “other revenue.” As indicated in the textbook, recoveries are usually handled by reestablishing the receivable and allowance account. The receivable is then written off. Method (c) is basically that approach.

CA 7-4

Part 1

Since Wallace Company is a calendar-year company, six months of interest should be accrued on 12/31/10. The remaining interest revenue should be recognized on 6/30/11 when the note is collected. The rationale for this treatment is: the accrual basis of accounting provides more useful information than does the cash basis. Therefore, since interest accrues with the passage of time, interest earned on Wallace’s note receivable should be recognized over the life of the note, regardless of when the cash is received.

CA 7-4 (Continued)

Part 2

- (a) The use of the allowance method based on credit sales to estimate bad debts is consistent with the expense recognition principle because bad debts arise from and are a function of making credit sales. Therefore, bad debt expense for the current period should be matched with current credit sales. This is an income statement approach because the balance in the allowance for doubtful accounts is ignored when computing bad debt expense.

The allowance method based on the balance in accounts receivable is not consistent with the expense recognition principle. This method attempts to value accounts receivable at the amount expected to be collected. The method is facilitated by preparing an aging schedule of accounts receivable and plugging bad debt expense with the adjustment necessary to bring the allowance account to the required balance. Alternatively, the ending balance in accounts receivable can be used to determine the required balance in the allowance account without preparing an aging schedule by using a composite percentage. Bad debt expense is determined in the same manner as when an aging schedule is used. However, neither of these approaches associates bad debt expense with the period of sale, especially for sales made in the last month or two of the period.

- (b) On Wallace's statement of financial position, the allowance for doubtful accounts is presented as a contra account to accounts receivable with the resulting difference representing the net accounts receivable (i.e., their net realizable value). Bad debt expense would generally be included on Wallace's income statement with the other operating (selling/general and administrative) expenses for the period. However, theoretical arguments can be made for (1) reducing sales revenue by the bad debts adjustment in the same manner that sales returns and allowances and trade discounts are considered reductions of the amount to be received from sales of products or (2) classifying the bad debts expense as a financial expense.

CA 7-5

(a)

VALASQUEZ COMPANY
Accounts Receivable Aging Schedule
May 31, 2011

| | Proportion of Total | Amount in Category | Probability of Non-Collection | Estimated Uncollectible Amount |
|----------------------------|------------------------|-----------------------|----------------------------------|--------------------------------------|
| Not yet due | .680 | \$1,088,000 | .010 | \$10,880 |
| Less than 30 days past due | .150 | 240,000 | .035 | 8,400 |
| 30 to 60 days past due | .080 | 128,000 | .050 | 6,400 |
| 61 to 120 days past due | .050 | 80,000 | .090 | 7,200 |
| 121 to 180 days past due | .025 | 40,000 | .300 | 12,000 |
| Over 180 days past due | .015 | 24,000 | .800 | 19,200 |
| | <u>1.000</u> | <u>\$1,600,000</u> | | <u>\$64,080</u> |

(b)

VALASQUEZ COMPANY

Analysis of Allowance for Doubtful Accounts

May 31, 2011

| | |
|---------------------------------------------------|-------------------|
| June 1, 2010 balance | \$ 43,300 |
| Bad debt expense accrual (\$4,000,000 X .04)..... | <u>160,000</u> |
| Balance before write-offs of bad accounts | 203,300 |
| Write-offs of bad accounts | <u>(145,000)</u> |
| Balance before year-end adjustment..... | 58,300 |
| Estimated uncollectible amount..... | <u>(64,080)</u> |
| Additional allowance needed | <u>(\$ 5,780)</u> |

| | | |
|---------------------------------------|-------|-------|
| Bad Debt Expense..... | 5,780 | |
| Allowance for Doubtful Accounts | | 5,780 |

| | | |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (c) | (1) Steps to Improve Accounts Receivable Situation | (2) Risks and Costs Involved |
| | Establish more selective credit-granting policies, such as more restrictive credit requirements or more thorough credit investigations. | This policy could result in lost sales and increased costs of credit evaluation. The company may be all but forced to adhere to the prevailing credit-granting policies of the office equipment and supplies industry. |
| | Establish a more rigorous collection policy either through external collection agencies or by its own personnel. | This policy may offend current customers and thus risk future sales. Increased collection costs could result from this policy. |
| | Charge interest on overdue accounts. Insist on cash on delivery (COD) or cash on order (COO) for new customers or poor credit risks. | This policy could result in lost sales and increased administrative costs. |

CA 7-6

- (a) The appropriate valuation basis of a note receivable at the date of sale is its discounted present value of the future amounts receivable for principal and interest using the customer's market rate of interest, if known or determinable, at the date of the equipment's sale.
- (b) Corrs should increase the carrying amount of the note receivable by the effective-interest revenue earned for the period February 1 to May 1, 2010. Corrs should account for the sale of the note receivable without guarantee (recourse) by increasing cash for the proceeds received, eliminating the carrying amount of the note receivable, and recognizing a loss (gain) for the resulting difference.

This reporting is appropriate since the note's carrying amount is correctly recorded at the date it was sold and the sale of a note receivable without recourse has occurred. Thus the difference between the cash received and the carrying amount of the note at the date it is sold is reported as a loss (gain).

- (c)
 - 1. For notes receivable not sold, Corrs should recognize bad debt expense. The expense equals the adjustment required to bring the balance of the allowance for doubtful accounts equal to the estimated uncollectible amounts less the fair values of recoverable equipment.
 - 2. For notes receivable sold with guarantee (recourse), at the time of sale, Corrs would have recorded a liability to the factor.

CA 7-7

- (a)
 - 1. It was not possible to determine the machine's fair value directly, so the sales price of the machine is reported at the note's September 30, 2009, fair value. The note's September 30, 2009, fair value equals the present value of the two installments discounted at the buyer's September 30, 2009, market rate of interest.
 - 2. Rolan reports 2009 interest revenue determined by multiplying the note's carrying amount at September 30, 2009, times the buyer's market rate of interest at the date of issue, times three-twelfths. Rolan should recognize that there is an interest factor implicit in the note, and this interest is earned with the passage of time. Therefore, interest revenue for 2009 should include three months' revenue. The rate used should be the market rate established by the original present value, and this is applied to the carrying amount of the note.
- (b) To report the sale of the note receivable with guarantee, Rolan should increase a liability to the factor by the carrying amount of the note, increase cash by the amount received, record a receivable from the factor for the proceeds retained by the factor to cover sales returns and allowances and report the difference as a finance charge as part of income from continuing operations.
- (c) Rolan should decrease cash, increase notes (accounts) receivable past due for all payments caused by the note's dishonor and eliminate the liability to the factor and the original note receivable. The note (account) receivable should be written down to its estimated recoverable amount (or an allowance for uncollectibles established), and a loss on uncollectible notes should be recorded.

CA 7-8

- (a) 1. For the interest-bearing note receivable, the interest revenue for 2010 should be determined by multiplying the principal (face) amount of the note by the note's rate of interest by one half (July 1, 2010 to December 31, 2010). Interest accrues with the passage of time, and it should be accounted for as an element of revenue over the life of the note receivable.
2. For the zero-interest-bearing note receivable, the interest revenue for 2010 should be determined by multiplying the carrying value of the note by the prevailing rate of interest at the date of the note by one third (September 1, 2010 to December 31, 2010). The carrying value of the note at September 1, 2010 is the face amount discounted for two years at the prevailing interest rate from the maturity date of August 31, 2012 back to the issuance date of September 1, 2010. Interest, even if unstated, accrues with the passage of time, and it should be accounted for as an element of revenue over the life of the note receivable.
- (b) The interest-bearing note receivable should be reported at December 31, 2010 as a current asset at its principal (face) amount.
- The zero-interest-bearing note receivable should be reported at December 31, 2010 as a non-current asset at its face amount less the unamortized discount on the note at December 31, 2010.
- (c) Because the trade accounts receivable are assigned, Moresan should account for the subsequent collections on the assigned trade accounts receivable by debiting Cash and crediting Accounts Receivable. The cash collected should then be remitted to Indigo Finance until the amount advanced by Indigo is settled. The payments to Indigo Finance consist of both principal and interest with interest computed at the rate of 8% on the balance outstanding.
- (d) Because the trade accounts receivable were factored on a without recourse basis, the factor is responsible for collection. On November 1, 2010, Moresan should credit Accounts Receivable for the amount of trade accounts receivable factored, debit Cash for the amount received from the factor, debit a Receivable from Factor for 5% of the trade accounts receivable factored, and debit Loss on Sale of Receivables for 3% of the trade accounts receivable factored.

CA 7-9

The controller of Engone Company cannot justify the manner in which the company has accounted for the transaction in terms of sound financial accounting principles.

Several problems are inherent in the sale of Henderson Enterprises stock to Bimini Inc. First, the issue of whether an arm's-length transaction has occurred may be raised. The controller stated that the stock has not been marketable for the past six years. Thus, the recognition of revenue is highly questionable in view of the limited market for the stock; i.e., has an exchange occurred?

Secondly, the collectibility of the note from Bimini is open to question. Bimini appears to have a liquidity problem due to its current cash squeeze. The lack of assurance about collectibility raises the question of whether revenue should be recognized.

Central to the transaction is the issue of imputed interest. If we assume that an arm's-length exchange has taken place, then the zero-interest-bearing feature masks the question of whether a gain, no gain or loss, or a loss occurred.

CA 7-9 (Continued)

For a gain to occur, the interest imputation must result in an interest rate of about 5% or less. To illustrate:

Present value of an annuity of £1 at 5% for 10 years = 7.72173; thus the present value of ten payments of £400,000 is £3,088,692. The cost of the investment is £3,000,000; thus, only an £88,692 gain is recognized at 5%.

Selecting a more realistic interest rate (in spite of the controller's ill-founded statements about "no cost" money since he/she is ignoring the opportunity cost) of 8% finds the present value of the annuity of £400,000 for ten periods equal to £2,684,032 (£400,000 X 6.71008). In this case a loss of £315,968 must be recognized as illustrated by the following journal entry:

| | | |
|-------------------------------------------|-----------|-----------|
| Notes Receivable | 4,000,000 | |
| Loss on Disposal of Henderson Stock | 315,968 | |
| Investment in Henderson Stock..... | | 3,000,000 |
| Discount on Notes Receivable..... | | 1,315,968 |

CA 7-10

To: Mark Price, Branch Manager

From: Accounting Major

Date: October 3, 2010

Subject: Shortage in the Accounts Receivable Account

While performing a routine test on accounts receivable balances today, I discovered a \$58,000 shortage. I believe that this matter deserves your immediate attention.

To compute the shortage, I determined that the accounts receivable balance should have been based on the amount of inventory which has been sold. When we opened for business this year, we purchased \$360,000 worth of merchandise inventory, and this morning, the balance in this account was \$90,000.

The \$270,000 difference times the 40% markup indicates that sales on account totalled \$378,000 [$\$270,000 + (\$270,000 \times .40)$] to date. I subtracted the payments of \$188,000 made on account this year and calculated the ending balance to be \$190,000. However, the ledger shows a balance of only \$132,000.

I realize that this situation is very sensitive and that we should not accuse any one individual without further evidence. However, in order to protect the company's assets, we must begin an immediate investigation of this disparity.

Aside from me, the only other employee who has access to the accounts receivable ledger is Kelly Collins, the receivables clerk. I will supervise Collins more closely in the future but suggest that we also employ an auditor to check into this situation.

CA 7-11

- (a) No, the controller should not be concerned with Marvin Company's growth rate in estimating the allowance. The accountant's proper task is to make a reasonable estimate of bad debt expense. In making the estimate, the controller should consider the previous year's write-offs and also anticipate economic factors which might affect the company's industry and influence Marvin's current write-off.
- (b) Yes, the controller's interest in disclosing financial information completely and fairly conflicts with the president's economic interest in manipulating income to avoid undesirable demands from the parent company. Such a conflict of interest is an ethical dilemma. The controller must recognize the dilemma, identify the alternatives, and decide what to do.

FINANCIAL REPORTING PROBLEM

- (a) M&S's cash and cash equivalents include short-term deposits with banks and other financial institutions, with an initial maturity of three months or less and credit card debtors receivable within 48 hours. The carrying amount of these assets approximates their fair value.**
- (b) As of March 29, 2008, M&S had 318 million pounds in cash and cash equivalents. The major uses of cash were capital expenditure and financial investment, other equity financing, and equity dividends paid.**
- (c) M&S reports trade receivables of 87.9 million pounds and 84.6 million pounds (net) in 2008. M&S has trade receivables of 12.6 million pounds that were past due but not impaired.**

COMPARATIVE ANALYSIS CASE

| <u>Cadbury</u> | | <u>Nestlé</u> | |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) 251 million pounds | Cash and cash equivalents 12/31/08 Cash and cash equivalents comprise cash on hand and demand deposits. | 5,835 million CHF | Cash and cash equivalents 12/31/08 Cash and cash equivalents are cash balances, deposits at sight as well as time deposits and placements in commercial paper the maturities of which are three months or less at inception. |
| (b) 1,067 million pounds | Trade and other receivables 12/31/08 | 13,442 million CHF | Trade and other receivables |
| 46 million pounds | Provision for impairment of receivables | 444 million CHF | 12/31/08 allowance for doubtful receivables |
| 4.13% | Percentage of gross receivable Nestlé has the greater allowance amount (without factoring in exchange rates), but Cadbury has the greater allowance as a percentage of gross receivables | 3.20% | Percentage of gross receivable |
| (c) 5,384 million pounds | Revenue for 2008 | 109,908 million CHF | Sales for 2008 |
| 4.8 (5,384 ÷ 1,132) | Receivables turnover ratio for 2008 | 7.8 (109,908 ÷ 14,166) | Receivables turnover ratio for 2008 |
| 76.0 | Days outstanding for receivables Nestlé's receivables are outstanding by about 29 days less than Cadbury's receivables, which shows that Nestlé is able to collect its receivables about a month earlier than Cadbury can. Perhaps Cadbury has looser credit policies, or Nestlé may have stricter credit policies. | 46.8 | Days outstanding for receivables |

- (a) Cash may consist of funds on deposit at the bank, negotiable instruments such as money orders, certified checks, cashier's checks, personal checks, bank drafts, and money market funds that provide checking account privileges.**
- (b) Cash equivalents are short-term, highly liquid investments that are both (a) readily convertible to known amounts of cash, and (b) so near their maturity that they present insignificant risk from changes in interest rates. Generally, only investments with original maturities of 3 months or less qualify. Examples of cash equivalents are Treasury bills, commercial paper, and money market funds.**
- (c) A compensating balance is that portion of any cash deposit maintained by an enterprise which constitutes support for existing borrowing arrangements with a lending institution.**

A compensating balance representing a legally restricted deposit held against short-term borrowing arrangements should be stated separately among cash and cash equivalent items. A restricted deposit held as a compensating balance against long-term borrowing arrangements should be separately classified as a noncurrent asset in either the investments or other assets section.

- (d) Short-term investments are the investments held temporarily in place of cash and can be readily converted to cash when current financing needs make such conversion desirable. Examples of short-term investments include stock, Treasury notes, and other short-term securities.**

FINANCIAL STATEMENT ANALYSIS CASE 1 (Continued)

The major differences between cash equivalents and short-term investments are (1) cash equivalents typically have shorter maturity (less than three months) whereas short-term investments either have a longer maturity (e.g., short-term bonds) or no maturity date (e.g., stock), and (2) cash equivalents are readily convertible to known amounts of cash whereas a company may have a gain or loss when selling its short-term investments.

- (e) Occidental would record a loss of \$30,000,000 as revealed in the following entry to record the transaction:

| | | |
|-----------------------------------|-------------|-------------|
| Cash..... | 345,000,000 | |
| Loss on Sale of Receivables | 30,000,000 | |
| Accounts Receivable | | 360,000,000 |
| Recourse Liability | | 15,000,000 |

- (f) The transaction in (e) will decrease Occidental’s liquidity position. Current assets decrease by \$15,000,000 and current liabilities are increased by the \$15,000,000 (for the recourse liability).

FINANCIAL STATEMENT ANALYSIS CASE 2

Part 1

- (a) Cash equivalents are short-term, highly liquid investments that can be converted into specific amounts of cash. They include money market funds, commercial paper, bank certificates of deposit, and Treasury bills. Cash equivalents differ in that they are extremely liquid (that is, easily turned into cash) and have very low risk of declining in value while held.

(b)

| (in millions) | addidas | Puma |
|---------------------|-------------------------------|---------------------------------|
| (1) Current ratio | $\frac{€4,934}{€3,645} = 1.4$ | $\frac{€1,362.1}{€614.8} = 2.2$ |
| (2) Working capital | $€4,934 - €3,645 = €1,289$ | $€1,362.1 - €614.8 = €747.3$ |

Puma's current ratio is significantly higher than addidas's, but its working capital is €542 million less. Based on these measures, Puma would be considered more liquid than addidas since the current ratio is a better comparison measure.

- (c) Yes, a company can have too many liquid assets. Liquid assets earn little or no return. Thus, addidas's large amount of liquid assets may eventually create a drag on its ability to meet investor expectations.

FINANCIAL STATEMENT ANALYSIS CASE 2 (Continued)

Part 2

(a) Receivable Turnover

2008

$$\frac{€10,799}{(€1,624 + €1,459)/2} = \frac{€10,799}{€1,541.5} = 7.01 \text{ times}$$

Or a collection period of 52 days (365 ÷ 7.01).

| | | |
|---------------------------------------|----|----|
| (b) Bad Debt Expense | 53 | |
| Allowance for Doubtful Accounts..... | | 53 |
| Allowance for Doubtful Accounts | 45 | |
| Accounts Receivable | | 45 |

(c) Accounts receivable is reduced by the amount of bad debts in the allowance account. This makes the denominator of the turnover ratio lower, resulting in a higher turnover ratio.

ACCOUNTING

(a) Accounts Receivable:

| | |
|--------------------------------|------------------|
| Beginning balance | \$ 46,000 |
| Credit sales during 2011 | 255,000 |
| Collections during 2011 | (228,000) |
| Factored receivables | <u>(10,000)</u> |
| Ending balance | <u>\$ 63,000</u> |

Allowance for Doubtful Accounts:

| | |
|----------------------------------------|-----------------|
| Beginning balance | \$ 550 |
| Write-offs | (1,600) |
| 2011 Bad debt expense | <u>2,625*</u> |
| Ending balance (\$63,000 X 2.5%) | <u>\$ 1,575</u> |

*2011 Bad Debt Expense is the amount needed to make the ending balance in the Allowance for Doubtful Accounts equal to \$1,575. In other words, $\$550 - \$1,600 + \text{Bad debt expense} = \$1,575$. Therefore, $\text{Bad debt expense} = \$1,575 + \$1,600 - \$550 = \$2,625$.

(b) Current assets section of December 31, 2011 Flatiron Pub statement of financial position

| | |
|---------------------------------------------------------------------------|-----------------|
| Accounts receivable (net of \$1,575 allowance for uncollectibles | \$61,425 |
| Interest receivable | 50 |
| Due from factor | 200 |
| Note receivable | 5,000 |
| Postage stamps | 110 |
| Other | 3,925 |
| Cash | <u>5,575</u> |
| Total current assets | <u>\$76,285</u> |

Calculations:

Cash = \$5,575 = \$1,575 + \$4,000

Account receivable, net = \$61,425 = \$63,000 – \$1,575

Interest receivable = \$50 = (\$5,000 X 0.12)(1/12)

Due from factor = \$200 = (\$2,000 X 0.10)

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

ANALYSIS

- (a) 2010 current ratio = $(\$2,000 + \$46,000 - \$550 + \$8,500) \div \$37,000 = 1.51$
2011 current ratio = $\$76,285 \div \$44,660 = 1.71$

$$\text{2011 Accounts Receivable turnover} = \$255,000 \div [(\$46,000 - \$550 + \$61,425) \div 2] = \$255,000 \div \$53,437.5 = 4.77$$

Both the current ratio and the accounts receivable turnover ratio suggest that Flatiron's liquidity has improved relative to 2010.

- (b) With a secured borrowing, the receivables would stay on The Flatiron's books and a note payable would be recorded. This would reduce both the current ratio and accounts receivable turnover ratio.

PRINCIPLES

The expense recognition principle requires that bad debt expense be recorded in the period of the sale. Otherwise, income will be overstated by the amount of bad debt expense. In addition, reporting the receivables net of the allowance provides a more representationally faithful reporting (at net realizable value) of this asset.

- (a) IAS 39, paragraphs 18-28 addresses derecognition of financial assets.
- (b) According to paragraph 19, “An entity transfers a financial asset if, and only if, it either:
 - a. transfers the contractual rights to receive the cash flows of the financial asset; or
 - b. retains the contractual rights to receive the cash flows of the financial asset, but assumes a contractual obligation to pay the cash flows to one or more recipients in an arrangement that meets the conditions in paragraphs 19.”
- (c) Definitions:
 - 1. *Derecognition* is the removal of a previously recognised financial asset or financial liability from an entity’s statement of financial position.
 - 2. The *amortised cost of a financial asset or financial liability* is the amount at which the financial asset or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectibility.
- (d) Continuing involvement in transferred assets:

If an entity neither transfers nor retains substantially all the risks and rewards of ownership of a transferred asset, and retains control of the transferred asset, the entity continues to recognise the transferred asset to the extent of its continuing involvement. The extent of the entity’s continuing involvement in the transferred asset is the extent to which it is exposed to changes in the value of the transferred asset. For example:

 - a. When the entity’s continuing involvement takes the form of guaranteeing the transferred asset, the extent of the entity’s continuing involvement is the lower of (i) the amount of the asset and (ii) the maximum amount of the consideration received that the entity could be required to repay (‘the guarantee amount’).

PROFESSIONAL RESEARCH (Continued)

- b. When the entity's continuing involvement takes the form of a written or purchased option (or both) on the transferred asset, the extent of the entity's continuing involvement is the amount of the transferred asset that the entity may repurchase. However, in case of a written put option on an asset that is measured at fair value, the extent of the entity's continuing involvement is limited to the lower of the fair value of the transferred asset and the option exercise price (see paragraph AG48).**
- c. When the entity's continuing involvement takes the form of a cash-settled option or similar provision on the transferred asset, the extent of the entity's continuing involvement is measured in the same way as that which results from non-cash settled options as set out in (b) above.**

When an entity continues to recognise an asset to the extent of its continuing involvement, the entity also recognises an associated liability. Despite the other measurement requirements in this Standard, the transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the entity has retained. The associated liability is measured in such a way that the net carrying amount of the transferred asset and the associated liability is:

- a. the amortised cost of the rights and obligations retained by the entity, if the transferred asset is measured at amortised cost; or**
- b. equal of the fair value of the rights and obligations retained by the entity when measured on a stand-alone basis, if the transferred asset is measured at fair value.**

The entity shall continue to recognise any income arising on the transferred asset to the extent of its continuing involvement and shall recognise any expense incurred on the associated liability.

PROFESSIONAL RESEARCH (Continued)

For the purpose of subsequent measurement, recognized changes in the fair value of the transferred asset and the associated liability are accounted for consistently with each other in accordance with paragraph 55, and shall not be offset.

If an entity's continuing involvement is in only a part of a financial asset (e.g., when an entity retains an option to repurchase part of a transferred asset, or retains a residual interest that does not result in the retention of substantially all the risks and rewards of ownership and the entity retains control), the entity allocates the previous carrying amount of the financial asset between the part it continues to recognise under continuing involvement, and the part it no longer recognises on the basis of the relative fair values of those parts on the date of the transfer. For this purpose, the requirements of paragraph 28 apply. The difference between:

- a. the carrying amount allocated to the part that is no longer recognised; and**
- b. the sum of (i) the consideration received for the part no longer recognised and (ii) any cumulative gain or loss allocated to it that had been recognised in other comprehensive income (see paragraph 55(b))**

shall be recognised in profit or loss. A cumulative gain or loss that had been recognised in other comprehensive income is allocated between the part that continues to be recognised and the part that is no longer recognised on the basis of the relative fair value of those parts.

PROFESSIONAL SIMULATION

Measurement

| <u>Trade Accounts Receivable</u> | | <u>Allowance for Doubtful Accounts</u> | |
|----------------------------------|------------------|----------------------------------------|-----------------|
| Beginning balance | \$ 40,000 | Beginning balance | \$ 5,500 |
| Credit sales during 2011 | 550,000 | Charge-offs | (2,300) |
| Collections during 2011 | (500,000) | 2011 provision | |
| Change-offs | (2,300) | (0.8% X \$550,000) | <u>4,400</u> |
| Factored receivables | <u>(47,700)</u> | Ending balance | <u>\$ 7,600</u> |
| Ending balance | <u>\$ 40,000</u> | | |

Financial Statements

Current assets

| | | |
|-----------------------------------------------|----------------|------------------|
| Inventories | | \$ 80,000 |
| Prepaid postage | | 100 |
| Trade accounts receivable | \$40,000 | |
| Allowance for doubtful accounts..... | <u>(7,600)</u> | 32,400 |
| Customer receivable (post-dated checks) | | 2,000 |
| Interest receivable** | | 2,750 |
| Due from factor*** | | 2,400 |
| Notes receivable | | 50,000 |
| Cash* | | <u>12,900</u> |
| Total current assets | | <u>\$182,550</u> |

*(\$15,000 – \$2,000 – \$100)

**(\$50,000 X 11% X 1/2)

***(\$40,000 X 6%)

Analysis

| <u>2010</u> | <u>2011</u> | |
|------------------------------------------------|---------------------------------------------|--------------|
| Current ratio = (\$139,500* ÷ \$80,000) = 1.74 | (\$182,550 ÷ \$86,000) | = 2.12 |
| Receivables turnover = 10.37 times | $\frac{\$550,000}{(\$34,500 + \$32,400)/2}$ | = 16.4 times |

*(\$20,000 + \$40,000 – \$5,500 + \$85,000)

Both ratios indicate that Horn's liquidity has improved relative to the prior year.

PROFESSIONAL SIMULATION (Continued)

Explanation

With a secured borrowing, the receivables would stay on Horn's books and Horn would record a note payable. This would reduce both the current ratio and the receivables turnover ratio.

CHAPTER 8

Valuation of Inventories: A Cost-Basis Approach

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------|-------------------------------------------------------|-----------------------------|-----------------------|
| 1. Inventory accounts; determining quantities, costs, and items to be included in inventory; the inventory equation; statement of financial position disclosure. | 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 14, 15, 16 | 1, 4, 5 | 1, 2, 3, 4, 5, 6 | 1, 2, 3 | 1, 2, 3, 6, 7 |
| 2. Perpetual vs. periodic. | | 2, 4 | 9, 13, 17, 20 | 4, 5, 6, 9 | |
| 3. Recording of discounts. | 13, 16 | | 7, 8 | 3 | 4 |
| 4. Inventory errors. | 9, 10 | 3 | 5, 10, 11, 12 | 2 | |
| 5. Flow assumptions. | 17, 18, 21 | 6, 7, 8, 9, 10 | 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 | 1, 4, 5, 6, 7, 8, 9, 10 | 5, 6, 7, 8, 9 |
| 6. Inventory accounting changes. | | | 16 | 10 | 8, 11 |
| *7. LIFO, Dollar-value LIFO methods. | 19, 20, 21, 22, 23, 24, 25 | 10, 11, 12 | 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 | 7, 8, 9, 10, 11, 12, 13, 14 | 7, 8, 9, 10 |

*This material is covered in an appendix to the chapter.

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | | Brief Exercises | Exercises | Problems |
|---------------------|-----------------------------------------------------------------------|--------------------|------------------------------------------------------------|----------------------------|
| 1. | Identify major classifications of inventory. | 1 | | |
| 2. | Distinguish between perpetual and periodic inventory systems. | 2 | 4, 9 | 4, 5, 6 |
| 3. | Identify the effects of inventory errors on the financial statements. | 3 | 5, 10, 11, 12 | |
| 4. | Understand the items to include as inventory cost. | 4, 5 | 1, 2, 3, 4, 5, 6, 7, 8 | 1, 2, 3 |
| 5. | Describe and compare the methods used to price inventories. | 6, 7, 8, 9 | 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25 | 1, 4, 5, 6, 7, 8, 9, 10 |
| 6. | Describe the LIFO cost flow assumption. | 10 | 17, 18, 19, 20, 21, 22, 23 | 7, 8, 9, 10 |
| 7. | Explain the significance and use of a LIFO reserve. | | 24 | |
| 8. | Understand the effect of LIFO liquidations. | | | |
| 9. | Explain the dollar-value LIFO method. | 11, 12 | 25, 26, 27, 28, 29 | 11, 12, 13, 14 |
| 10. | Explain the major advantages and disadvantages of LIFO. | | | |
| 11. | Understand why companies select given inventory methods. | | | |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|-------|----------------------------------------------------------|---------------------|----------------|
| E8-1 | Inventoriable costs. | Moderate | 15–20 |
| E8-2 | Inventoriable costs. | Moderate | 10–15 |
| E8-3 | Inventoriable costs. | Simple | 10–15 |
| E8-4 | Inventoriable costs—perpetual. | Simple | 10–15 |
| E8-5 | Inventoriable costs—error adjustments. | Moderate | 15–20 |
| E8-6 | Determining merchandise amounts—periodic. | Simple | 10–20 |
| E8-7 | Purchases recorded net. | Simple | 10–15 |
| E8-8 | Purchases recorded, gross method. | Simple | 20–25 |
| E8-9 | Periodic versus perpetual entries. | Moderate | 15–25 |
| E8-10 | Inventory errors, periodic. | Simple | 10–15 |
| E8-11 | Inventory errors. | Simple | 10–15 |
| E8-12 | Inventory errors. | Moderate | 15–20 |
| E8-13 | FIFO and average cost determination. | Moderate | 20–25 |
| E8-14 | FIFO and average cost inventory. | Moderate | 15–20 |
| E8-15 | Compute FIFO and average cost—periodic. | Moderate | 15–20 |
| E8-16 | FIFO and average cost—income statement presentation. | Simple | 15–20 |
| E8-17 | FIFO and LIFO—periodic and perpetual. | Moderate | 15–20 |
| E8-18 | FIFO, LIFO, and average cost determination. | Moderate | 20–25 |
| E8-19 | FIFO, LIFO, average cost inventory. | Moderate | 15–20 |
| E8-20 | FIFO and LIFO; periodic and perpetual. | Simple | 10–15 |
| E8-21 | FIFO and LIFO; income statement presentation. | Simple | 15–20 |
| E8-22 | FIFO and LIFO effects. | Moderate | 20–25 |
| E8-23 | FIFO and LIFO—periodic. | Simple | 10–15 |
| E8-24 | LIFO effect. | Moderate | 10–15 |
| E8-25 | Alternate inventory methods—comprehensive. | Moderate | 25–30 |
| E8-26 | Dollar-value LIFO. | Simple | 5–10 |
| E8-27 | Dollar-value LIFO. | Simple | 15–20 |
| E8-28 | Dollar-value LIFO. | Moderate | 20–25 |
| E8-29 | Dollar-value LIFO. | Moderate | 15–20 |
| P8-1 | Various inventory issues. | Moderate | 25–35 |
| P8-2 | Inventory adjustments. | Moderate | 25–35 |
| P8-3 | Purchases recorded gross and net. | Simple | 20–25 |
| P8-4 | Compute specific identification, FIFO, and average cost. | Complex | 30–40 |
| P8-5 | Compute FIFO and average cost. | Complex | 25–35 |
| P8-6 | Compute FIFO average cost—periodic and perpetual. | Moderate | 20–25 |

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|--------------------------------------------------------------|---------------------|----------------|
| P8-7 | Compute FIFO, LIFO, and average cost. | Complex | 40–55 |
| P8-8 | Compute FIFO, LIFO, and average cost. | Complex | 40–55 |
| P8-9 | Compute FIFO, LIFO, and average cost—periodic and perpetual. | Moderate | 25–35 |
| P8-10 | Financial statement effects of FIFO and LIFO. | Moderate | 30–40 |
| P8-11 | Dollar-value LIFO. | Moderate | 30–40 |
| P8-12 | Internal indexes—dollar-value LIFO. | Moderate | 25–35 |
| P8-13 | Internal indexes—dollar-value LIFO. | Complex | 30–35 |
| P8-14 | Dollar-value LIFO. | Moderate | 40–50 |
| CA8-1 | Inventoriable costs. | Moderate | 15–20 |
| CA8-2 | Inventoriable costs. | Moderate | 15–25 |
| CA8-3 | Inventoriable costs. | Moderate | 25–35 |
| CA8-4 | Accounting treatment of purchase discounts. | Simple | 15–25 |
| CA8-5 | Average cost and FIFO. | Simple | 15–20 |
| CA8-6 | Inventory choices—ethical issues | Moderate | 20–25 |
| CA8-7 | General inventory issues. | Moderate | 20–25 |
| CA8-8 | LIFO inventory advantages. | Simple | 15–20 |
| CA8-9 | LIFO application and advantages. | Moderate | 25–30 |
| CA8-10 | Dollar-value LIFO issues. | Moderate | 25–30 |
| CA8-11 | FIFO and LIFO. | Moderate | 30–35 |

ANSWERS TO QUESTIONS

1. In a merchandising concern, inventory normally consists of only one category, that is the product awaiting resale. In a manufacturing concern, inventories consist of raw materials, work in process, and finished goods. Sometimes a manufacturing or factory supplies inventory account is also included.
2. (a) Inventories are unexpired costs and represent future benefits to the owner. A statement of financial position includes a listing of all unexpired costs (assets) at a specific point in time. Because inventories are assets owned at the specific point in time for which a statement of financial position is prepared, they must be included in order that the owners' financial position will be presented fairly.

(b) Beginning and ending inventories are included in the computation of net income only for the purpose of arriving at the cost of goods sold during the period of time covered by the statement. Goods included in the beginning inventory which are no longer on hand are expired costs to be matched against revenues earned during the period. Goods included in the ending inventory are unexpired costs to be carried forward to a future period, rather than expensed.
3. In a perpetual inventory system, data are available at any time on the quantity and dollar amount of each item of material or type of merchandise on hand. A physical inventory means that inventory is periodically counted (at least once a year) but that up-to-date records are not necessarily maintained. Discrepancies often occur between the physical count and the perpetual records because of clerical errors, theft, waste, misplacement of goods, etc.
4. No. Mishima, Inc. should not report this amount on its statement of financial position. As consignee, it does not own this merchandise and therefore it is inappropriate for it to recognize this merchandise as part of its inventory.
5. Product financing arrangements are essentially off-balance-sheet financing devices. These arrangements make it appear that a company has sold its inventory or never taken title to it so they can keep loans off their statement of financial position. A product financing arrangement should not be recorded as a sale. Rather, the inventory and related liability should be reported on the statement of financial position.
6. (a) Inventory.
(b) Not shown, possibly in a note to the financial statements if material.
(c) Inventory.
(d) Inventory, separately disclosed as raw materials.
(e) Not shown, possibly a note to the financial statements.
(f) Inventory or manufacturing supplies.
7. Yang can consider the inventory sold if it can reasonably estimate the amount of returns. The generous return policy does not prohibit Yang from recording a sale unless returns are unpredictable.
8. Holland can consider goods sold through installment plans as revenue if it can reasonably estimate the percentage of bad debts. Even though legal title does not pass to the buyer, Holland will consider the goods sold as long as it can estimate bad debts accurately.
9. Beckham should explain to the Swiss president that an error in the ending inventory of 2010 also affects the beginning inventory of 2011. For example, understating the 2010 ending inventory would cause the 2011 beginning inventory to be understated also. This understatement would cause an understatement of the 2011 cost of goods sold and an overstatement of the 2011 net income.

Questions Chapter 8 (Continued)

10. This omission would have no effect upon the net income for the year, since the purchases and the ending inventory are understated in the same amount. With respect to financial position, both the inventory and the accounts payable would be understated. Materiality would be a factor in determining whether an adjustment for this item should be made as omission of a large item would distort the amount of current assets and the amount of current liabilities. It, therefore, might influence the current ratio to a considerable extent.
11. Cost, which has been defined generally as the price paid or consideration given to acquire an asset, is the primary basis for accounting for inventories. As applied to inventories, cost means the sum of the applicable expenditures and charges directly or indirectly incurred in bringing an article to its existing condition and location. These applicable expenditures and charges include all acquisition and production costs but exclude all selling expenses and that portion of general and administrative expenses not clearly related to production. Freight charges applicable to the product are considered a cost of the goods.
12. By their nature, product costs “attach” to the inventory and are recorded in the inventory account. These costs are directly connected with the bringing of goods to the place of business of the buyer and converting such goods to a salable condition. Such charges would include freight charges on goods purchased, other direct costs of acquisition, and labor and other production costs incurred in processing the goods up to the time of sale.

Period costs are not considered to be directly related to the acquisition or production of goods and therefore are not considered to be a part of inventories.

Conceptually, these expenses are as much a cost of the product as the initial purchase price and related freight charges attached to the product. While selling expenses are generally considered as more directly related to the cost of goods sold than to the unsold inventory, in most cases, though, the costs, especially administrative expenses, are so unrelated or indirectly related to the immediate production process that any allocation is purely arbitrary.

13. Cash discounts (purchase discounts) should not be accounted for as income when payments are made. Income should be recognized when the earning process is complete (when the company sells the inventory). Furthermore, a company does not earn revenue from purchasing goods. Cash discounts should be considered as a reduction in the cost of the items purchased.
14. Companies usually expense interest costs. Interest costs are considered a cost of financing and are generally expensed as incurred. IFRS indicates that companies should only capitalize interest costs related to assets constructed for internal use or assets produced as discrete projects for sale or lease. This generally does not apply to inventory.
15. Biestek should account for the usual spoilage as a cost of its inventory, but the unusual spoilage should be charged to an expense in the period incurred.
16. €60.00, €63.00, €61.80. (Freight-In not included for discount because it might be paid to different party.)
17. Arguments for the specific identification method are as follows:
- (1) It provides an accurate and ideal matching of costs and revenues because the cost is specifically identified with the sales price.
 - (2) The method is realistic and objective since it adheres to the actual physical flow of goods rather than an artificial flow of costs.
 - (3) Inventory is valued at actual cost instead of an assumed cost.

Questions Chapter 8 (Continued)

Arguments against the specific identification method include the following:

- (1) The cost of using it restricts its use to goods of high unit value.
 - (2) The method is impractical for manufacturing processes or cases in which units are commingled and identity lost.
 - (3) It allows an artificial determination of income by permitting arbitrary selection of the items to be sold from a homogeneous group.
 - (4) It may not be a meaningful method of assigning costs in periods of changing price levels.
- 18.** The first-in, first-out method approximates the specific identification method when the physical flow of goods is on a FIFO basis. When the goods are subject to spoilage or deterioration, FIFO is particularly appropriate. In comparison to the specific identification method, an attractive aspect of FIFO is the elimination of the danger of artificial determination of income by the selection of advantageously priced items to be sold. The basic assumption is that costs should be charged in the order in which they are incurred. As a result, the inventories are stated at the latest costs. Where the inventory is consumed and valued in the FIFO manner, there is no accounting recognition of unrealized gain or loss. A criticism of the FIFO method is that it maximizes the effects of price fluctuations upon reported income because current revenue is matched with the oldest costs which are probably least similar to current replacement costs. On the other hand, this method produces a statement of financial position value for the asset close to current replacement costs. It is claimed that FIFO is deceptive when used in a period of rising prices because the reported income is not fully available since a part of it must be used to replace inventory at higher cost.

The results achieved by the weighted-average method resemble those of the specific identification method where items are chosen at random or there is a rapid inventory turnover. Compared with the specific identification method, the weighted-average method has the advantage that the goods need not be individually identified; therefore accounting is not so costly and the method can be applied to fungible goods. The weighted-average method is also appropriate when there is no marked trend in price changes. In opposition, it is argued that the method is illogical. Since it assumes that all sales are made proportionally from all purchases and that inventories will always include units from the first purchases, it is argued that the method is illogical because it is contrary to the chronological flow of goods. In addition, in periods of price changes there is a lag between current costs and costs assigned to income or to the valuation of inventories.

- *19.** A company may obtain a price index from an outside source (external index)—the government, a trade association, an exchange—or by computing its own index (internal index) using the double extension method. Under the double extension method the ending inventory is priced at both base-year costs and at current-year costs, with the total current cost divided by the total base cost to obtain the current year index.

Questions Chapter 8 (Continued)

- *20.** Under the double extension method, LIFO inventory is priced at both base-year costs and current-year costs. The total current-year cost of the inventory is divided by the total base-year cost to obtain the current-year index.

The index for the LIFO pool consisting of product A and product B is computed as follows:

| Product | Units | Base-Year Cost | | Current-Year Cost | |
|-----------------------------|--------|----------------|------------------|-------------------|--------------------|
| | | Unit | Total | Unit | Total |
| A | 25,500 | \$10.20 | \$260,100 | \$21.00 | \$ 535,500 |
| B | 10,350 | \$37.00 | 382,950 | \$45.60 | 471,960 |
| December 31, 2010 inventory | | | <u>\$643,050</u> | | <u>\$1,007,460</u> |

$$\frac{\text{Current-Year Cost}}{\text{Base-Year Cost}} = \frac{\$1,007,460}{\$643,050} = 156.67, \text{ index at 12/31/10.}$$

- *21.** The LIFO method results in a smaller net income because later costs, which are higher than earlier costs, are matched against revenue. Conversely, in a period of falling prices, the LIFO method would result in a higher net income because later costs in this case would be lower than earlier costs, and these later costs would be matched against revenue.
- *22.** The dollar-value method uses dollars instead of units to measure increments, or reductions in a LIFO inventory. After converting the closing inventory to the same price level as the opening inventory, the increases in inventories, priced at base-year costs, is converted to the current price level and added to the opening inventory. Any decrease is subtracted at base-year costs to determine the ending inventory.

The principal advantage is that it requires less record-keeping. It is not necessary to keep records nor make calculations of opening and closing quantities of individual items. Also, the use of a base inventory amount gives greater flexibility in the makeup of the base and eliminates many detailed calculations.

The unit LIFO inventory costing method is applied to each type of item in an inventory. Any type of item removed from the inventory base (e.g., magnets) and replaced by another type (e.g., coils) will cause the old cost (magnets) to be removed from the base and to be replaced by the more current cost of the other item (coils).

The dollar-value LIFO costing method treats the inventory base as being composed of a base of cost in dollars rather than of units. Therefore a change in the composition of the inventory (less magnets and more coils) will not change the cost of inventory base so long as the amount of the inventory stated in base-year dollars does not change.

- *23.** (a) LIFO layer—a LIFO layer (increment) is formed when the ending inventory at base-year prices exceeds the beginning inventory at base-year prices.
- (b) LIFO reserve—the difference between the inventory method used for internal purposes and LIFO.
- (c) LIFO effect—the change in the LIFO reserve (Allowance to Reduce Inventory to LIFO) from one period to the next.

Questions Chapter 8 (Continued)

| | |
|---------------------------------------------------------------------------------------------|------------------|
| *24. December 31, 2010 inventory at December 31, 2009 prices, $\$1,053,000 \div 1.08$ | \$975,000 |
| Less: Inventory, December 31, 2009 | <u>800,000</u> |
| Increment added during 2010 at base prices..... | <u>\$175,000</u> |
| Increment added during 2010 at December 31, 2010 prices, $\$175,000 \times 1.08$ | \$189,000 |
| Add: Inventory at December 31, 2009 | <u>800,000</u> |
| Inventory, December 31, 2010, under dollar-value LIFO method..... | <u>\$989,000</u> |

- *25. Phantom (paper) profits occur when the inventory costs matched against sales are less than the replacement cost of the inventory. The cost of goods sold therefore is understated and profit is considered overstated. Phantom profits are said to occur when FIFO is used during periods of rising prices.

High LIFO profits through involuntary liquidation occur if a company is forced to reduce its LIFO base or layers. If the base or layers of old costs are eliminated, strange results can occur because old, irrelevant costs can be matched against current revenues. A distortion in reported income for a given period may result, as well as consequences that are detrimental from an income tax point of view.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 8-1

RIVERA COMPANY Balance Sheet (Partial) December 31

| | | |
|----------------------------------|----------------|---------------------------|
| Current assets | | |
| Inventories | | |
| Finished goods | \$170,000 | |
| Work in process | 200,000 | |
| Raw materials | <u>335,000</u> | \$ 705,000 |
| Prepaid insurance | | 41,000 |
| Receivables (net) | | 400,000 |
| Cash | | <u>190,000</u> |
| Total current assets..... | | <u>\$1,336,000</u> |

BRIEF EXERCISE 8-2

| | | |
|---------------------------------------|-------|-------|
| Inventory (150 X \$34)..... | 5,100 | |
| Accounts Payable..... | | 5,100 |
| | | |
| Accounts Payable (6 X \$34) | 204 | |
| Inventory | | 204 |
| | | |
| Accounts Receivable (125 X \$50)..... | 6,250 | |
| Sales..... | | 6,250 |
| | | |
| Cost of Goods Sold (125 X \$34)..... | 4,250 | |
| Inventory | | 4,250 |

BRIEF EXERCISE 8-3

| | |
|----------------------------------------------|--------------------|
| Cost of goods sold as reported..... | \$1,400,000 |
| Overstatement of 12/31/09 inventory..... | (110,000) |
| Overstatement of 12/31/10 inventory..... | <u>35,000</u> |
| Corrected cost of goods sold..... | <u>\$1,325,000</u> |
| | |
| 12/31/10 retained earnings as reported | \$5,200,000 |
| Overstatement of 12/31/10 inventory..... | <u>(35,000)</u> |
| Corrected 12/31/10 retained earnings..... | <u>\$5,165,000</u> |

BRIEF EXERCISE 8-4

| | |
|----------------------------------------------------|------------------|
| December 31 inventory per physical count | \$200,000 |
| Goods-in-transit purchased FOB shipping point..... | 25,000 |
| Goods-in-transit sold FOB destination..... | <u>22,000</u> |
| December 31 inventory | <u>\$247,000</u> |

BRIEF EXERCISE 8-5

| | |
|---------------------------|--------------------|
| Purchase price | ¥45,000,000 |
| Import duties..... | 375,000 |
| Transportation costs..... | <u>125,000</u> |
| Cost of Inventory..... | <u>¥45,500,000</u> |

BRIEF EXERCISE 8-6

$$\text{Weighted average cost per unit} \quad \frac{\text{€7,550}}{1,150} = \quad \underline{\text{€ 6.57}}$$

$$\text{Ending inventory } 550 \times \text{€6.57} = \quad \underline{\text{€3,614}}$$

$$\text{Cost of goods available for sale} \quad \text{€7,550}$$

$$\text{Deduct ending inventory} \quad \underline{3,614}$$

$$\text{Cost of goods sold} \quad \underline{\text{€3,936}}$$

BRIEF EXERCISE 8-7

$$\text{Ending inventory} \quad 400 \times \text{€8} = \quad \text{€3,200}$$

$$\text{June 23} \quad 150 \times \text{€6} = \quad \underline{900}$$

$$\underline{\text{€4,100}}$$

$$\text{Cost of goods available for sale} \quad \text{€7,550}$$

$$\text{Deduct ending inventory} \quad \underline{4,100}$$

$$\text{Cost of goods sold} \quad \underline{\text{€3,450}}$$

BRIEF EXERCISE 8-8

$$\text{Weighted average cost per unit} \quad \frac{\$11,850}{1,000} = \quad \underline{\$ 11.85}$$

$$\text{Ending inventory } 400 \times \$11.85 = \quad \underline{\$ 4,740}$$

$$\text{Cost of goods available for sale} \quad \$11,850$$

$$\text{Deduct ending inventory} \quad \underline{4,740}$$

$$\text{Cost of goods sold (600 X \$11.85)} \quad \underline{\$ 7,110}$$

BRIEF EXERCISE 8-9

| | | |
|------------------|---------------------|-----------------|
| April 23 | $350 \times \$13 =$ | \$ 4,550 |
| April 15 | $50 \times \$12 =$ | <u>600</u> |
| Ending inventory | | <u>\$ 5,150</u> |

| | |
|----------------------------------|-----------------|
| Cost of goods available for sale | \$11,850 |
| Deduct ending inventory | <u>5,150</u> |
| Cost of goods sold | <u>\$ 6,700</u> |

*BRIEF EXERCISE 8-10

| | | |
|------------------|---------------------|-----------------|
| April 1 | $250 \times \$10 =$ | \$ 2,500 |
| April 15 | $150 \times \$12 =$ | <u>1,800</u> |
| Ending inventory | | <u>\$ 4,300</u> |

| | |
|----------------------------------|-----------------|
| Cost of goods available for sale | \$11,850 |
| Deduct ending inventory | <u>4,300</u> |
| Cost of goods sold | <u>\$ 7,550</u> |

*BRIEF EXERCISE 8-11

| | | |
|------|----------------------------------|------------------|
| 2009 | | \$100,000 |
| 2010 | $\$119,900 \div 1.10 =$ | <u>\$109,000</u> |
| | $\$100,000 \times 1.00$ | \$100,000 |
| | $\$9,000^* \times 1.10$ | <u>9,900</u> |
| | | <u>\$109,900</u> |
| | $^*\$109,000 - \$100,000$ | |
| 2011 | $\$134,560 \div 1.16 =$ | <u>\$116,000</u> |
| | $\$100,000 \times 1.00$ | \$100,000 |
| | $\$9,000 \times 1.10$ | 9,900 |
| | $\$7,000^{**} \times 1.16$ | <u>8,120</u> |
| | | <u>\$118,020</u> |
| | $^{**}\$116,000 - \$109,000$ | |

***BRIEF EXERCISE 8-12**

| | | |
|--------------------------------------------------------|-----------------|-----------------|
| 2010 inventory at base amount ($\$22,140 \div 1.08$) | | \$20,500 |
| 2009 inventory at base amount | | <u>(19,750)</u> |
| Increase in base inventory | | <u>\$ 750</u> |
| 2010 inventory under LIFO | | |
| Layer one | \$19,750 X 1.00 | \$19,750 |
| Layer two | \$ 750 X 1.08 | <u>810</u> |
| | | <u>\$20,560</u> |
| 2011 inventory at base amount ($\$25,935 \div 1.14$) | | \$22,750 |
| 2010 inventory at base amount | | <u>(20,500)</u> |
| Increase in base inventory | | <u>\$ 2,250</u> |
| 2011 inventory under LIFO | | |
| Layer one | \$19,750 X 1.00 | \$19,750 |
| Layer two | \$ 750 X 1.08 | 810 |
| Layer three | \$ 2,250 X 1.14 | <u>2,565</u> |
| | | <u>\$23,125</u> |

SOLUTIONS TO EXERCISES

EXERCISE 8-1 (15–20 minutes)

Items 2, 3, 5, 8, 10, 13, 14, 16, and 17 would be reported as inventory in the financial statements.

The following items would not be reported as inventory:

1. Cost of goods sold in the income statement.
4. Not reported in the financial statements.
6. Cost of goods sold in the income statement.
7. Cost of goods sold in the income statement.
9. Interest expense in the income statement.
11. Advertising expense in the income statement.
12. Office supplies in the current assets section of the statement of financial position.
15. Not reported in the financial statements.
18. Short-term investments in the current asset section of the statement of financial position.

EXERCISE 8-2 (10–15 minutes)

| | |
|-------------------------------------------------------------------|------------------|
| Inventory per physical count | \$441,000 |
| Goods in transit to customer, f.o.b. destination..... | + 33,000 |
| Goods in transit from vendor, f.o.b. shipping point..... | + 51,000 |
| Inventory to be reported on statement of financial position | <u>\$525,000</u> |

The consigned goods of \$61,000 are not owned by Garza and were properly excluded.

The goods in transit to a customer of \$46,000, shipped f.o.b. shipping point, are properly excluded from the inventory because the title to the goods passed when they left the seller (Garza) and therefore a sale and related cost of goods sold should be recorded in 2010.

The goods in transit from a vendor of \$73,000, shipped f.o.b. destination, are properly excluded from the inventory because the title to the goods does not pass to Garza until the buyer (Garza) receives them.

EXERCISE 8-3 (10–15 minutes)

1. **Include.** Merchandise passes to customer only when it is shipped.
2. **Do not include.** Title did not pass until January 3.
3. **Include in inventory.** Product belonged to Webber Inc. at December 31, 2010.
4. **Do not include.** Goods received on consignment remain the property of the consignor.
5. **Include in inventory.** Under invoice terms, title passed when goods were shipped.

EXERCISE 8-4 (10–15 minutes)

- | | | | |
|----|-------------------------------|--------|--------|
| 1. | Raw Materials Inventory | 8,100 | |
| | Accounts Payable | | 8,100 |
| 2. | No adjustment necessary. | | |
| 3. | Raw Materials Inventory | 28,000 | |
| | Accounts Payable | | 28,000 |
| 4. | Accounts Payable | 7,500 | |
| | Raw Materials Inventory | | 7,500 |
| 5. | Raw Materials Inventory | 19,800 | |
| | Accounts Payable | | 19,800 |

EXERCISE 8-5 (15–20 minutes)

| | | |
|------------|------------------------------------------------------|-------------------------|
| (a) | Inventory December 31, 2010 (unadjusted)..... | \$234,890 |
| | Transaction 2 | 10,420 |
| | Transaction 3 | –0– |
| | Transaction 4 | –0– |
| | Transaction 5 | 8,540 |
| | Transaction 6 | (10,438) |
| | Transaction 7 | (11,520) |
| | Transaction 8 | 1,500 |
| | Inventory December 31, 2010 (adjusted)..... | <u>\$233,392</u> |

| | | | |
|------------|------------------------------------------------|---------------|---------------|
| (b) | Transaction 3 | | |
| | Sales..... | 12,800 | |
| | Accounts Receivable | | 12,800 |
| | (To reverse sale entry in 2010) | | |

| | | | |
|--|------------------------------------------------------------------------|---------------|---------------|
| | Transaction 4 | | |
| | Purchases (Inventory)..... | 15,630 | |
| | Accounts Payable | | 15,630 |
| | (To record purchase of merchandise in 2010) | | |

| | | | |
|--|-------------------------------------------|--------------|--------------|
| | Transaction 8 | | |
| | Sales Returns and Allowances | 2,600 | |
| | Accounts Receivable | | 2,600 |

EXERCISE 8-6 (10–20 minutes)

| | <u>2009</u> | <u>2010</u> | <u>2011</u> |
|----------------------------------------------|------------------|------------------|------------------|
| Sales | \$290,000 | \$360,000 | \$410,000 |
| Sales Returns..... | 6,000 | 13,000 | 10,000 |
| Net Sales..... | 284,000 | 347,000 | 400,000 |
| Beginning Inventory | 20,000 | 32,000 | 37,000** |
| Ending Inventory | 32,000* | 37,000 | 34,000 |
| Purchases | 247,000 | 260,000 | 298,000 |
| Purchase Returns and Allowances | 5,000 | 8,000 | 10,000 |
| Transportation-in | 8,000 | 9,000 | 12,000 |
| Cost of Good Sold..... | 238,000 | 256,000 | 303,000 |
| Gross Profit on Sales | 46,000 | 91,000 | 97,000 |

*This was given as the beginning inventory for 2010.

**This was calculated as the ending inventory for 2010.

EXERCISE 8-7 (10–15 minutes)

| | | | | |
|------------|---------------|-------------------------------|---------------|---------------|
| (a) | May 10 | Purchases | 19,600 | |
| | | Accounts Payable | | |
| | | (\$20,000 X .98) | | 19,600 |
| | May 11 | Purchases | 14,850 | |
| | | Accounts Payable | | |
| | | (\$15,000 X .99) | | 14,850 |
| | May 19 | Accounts Payable | 19,600 | |
| | | Cash | | 19,600 |
| | May 24 | Purchases | 11,270 | |
| | | Accounts Payable | | |
| | | (\$11,500 X .98) | | 11,270 |

EXERCISE 8-7 (Continued)

| | | | | |
|-----|--------|------------------------------|-----|-----|
| (b) | May 31 | Purchase Discounts Lost..... | 150 | |
| | | Accounts Payable | | |
| | | (\$15,000 X .01)..... | | 150 |
| | | (Discount lost on purchase | | |
| | | of May 11, \$15,000, terms | | |
| | | 1/15, n/30) | | |

EXERCISE 8-8 (20–25 minutes)

| | | | | |
|-----|---------|---------------------------------------------|--------|--------|
| (a) | Feb. 1 | Inventory [¥12,000 – (¥12,000 X 10%)] | 10,800 | |
| | | Accounts Payable | | 10,800 |
| | Feb. 4 | Accounts Payable | | |
| | | [¥3,000 – (¥3,000 X 10%)] | 2,700 | |
| | | Inventory | | 2,700 |
| | Feb. 13 | Accounts Payable (¥10,800 – ¥2,700)..... | 8,100 | |
| | | Inventory (3% X ¥8,100)..... | | 243 |
| | | Cash..... | | 7,857 |
| (b) | Feb. 1 | Purchases [¥12,000 – (¥12,000 X 10%)] | 10,800 | |
| | | Accounts Payable | | 10,800 |
| | Feb. 4 | Accounts Payable | | |
| | | [¥3,000 – (¥3,000 X 10%)] | 2,700 | |
| | | Purchase Returns and Allowances | | 2,700 |
| | Feb. 13 | Accounts Payable (¥10,800 – ¥2,700)..... | 8,100 | |
| | | Purchase Discounts (3% X ¥8,100) | | 243 |
| | | Cash..... | | 7,857 |

EXERCISE 8-8 (Continued)

| | | | |
|-----|--------------------------------------------|----------------|--|
| (c) | Purchase price (list)..... | ¥12,000 | |
| | Less: Trade discount (10% X ¥12,000) | <u>1,200</u> | |
| | Price on which cash discount based | 10,800 | |
| | Less: Cash discount (3% X ¥10,800) | <u>324</u> | |
| | Net price..... | <u>¥10,476</u> | |

EXERCISE 8-9 (15–25 minutes)

| | | | | |
|-----|---------|----------------------------------|--------|-------|
| (a) | Jan. 4 | Accounts Receivable | 640 | |
| | | Sales (80 X \$8) | | 640 |
| | Jan. 11 | Purchases (\$150 X \$6.50)..... | 975 | |
| | | Accounts Payable..... | | 975 |
| | Jan. 13 | Accounts Receivable | 1,050 | |
| | | Sales (120 X \$8.75) | | 1,050 |
| | Jan. 20 | Purchases (160 X \$7)..... | 1,120 | |
| | | Accounts Payable..... | | 1,120 |
| | Jan. 27 | Accounts Receivable | 900 | |
| | | Sales (100 X \$9)..... | | 900 |
| | Jan. 31 | Inventory (\$7 X 110)..... | 770 | |
| | | Cost of Goods Sold | 1,925* | |
| | | Purchases (\$975 + \$1,120)..... | | 2,095 |
| | | Inventory (100 X \$6) | | 600 |

*($\$600 + \$2,095 - \$770$)

EXERCISE 8-9 (Continued)

| | | |
|-----|--------------------------------------|---------------|
| (b) | Sales (\$640 + \$1,050 + \$900)..... | \$2,590 |
| | Cost of goods sold..... | <u>1,925</u> |
| | Gross profit | <u>\$ 665</u> |

| | | | | |
|-----|---------|--------------------------------------------------|-------|-------|
| (c) | Jan. 4 | Accounts Receivable | 640 | |
| | | Sales (80 X \$8) | | 640 |
| | | Cost of Goods Sold | 480 | |
| | | Inventory (80 X \$6) | | 480 |
| | Jan. 11 | Inventory | 975 | |
| | | Accounts Payable (150 X \$6.50) | | 975 |
| | Jan. 13 | Accounts Receivable | 1,050 | |
| | | Sales (120 X \$8.75) | | 1,050 |
| | | Cost of Goods Sold | 770 | |
| | | Inventory [(20 X \$6) + (100 X \$6.50)] | | 770 |
| | Jan. 20 | Inventory | 1,120 | |
| | | Accounts Payable (160 X \$7) | | 1,120 |
| | Jan. 27 | Accounts Receivable | 900 | |
| | | Sales (100 X \$9) | | 900 |
| | | Cost of Goods Sold | 675 | |
| | | Inventory [(50 X \$6.50) + (50 X \$7)] | | 675 |

| | | |
|-----|-------------------------------|---------------|
| (d) | Sales | \$2,590 |
| | Cost of goods sold | |
| | (\$480 + \$770 + \$675) | <u>1,925</u> |
| | Gross profit | <u>\$ 665</u> |

EXERCISE 8-10 (10–15 minutes)

| | Current Year | Subsequent Year |
|--------------------|--------------|-----------------|
| 1. Working capital | No effect | No effect |
| Current ratio | Overstated* | No effect |
| Retained earnings | No effect | No effect |
| Net income | No effect | No effect |
| 2. Working capital | Overstated | No effect |
| Current ratio | Overstated | No effect |
| Retained earnings | Overstated | No effect |
| Net income | Overstated | Understated |
| 3. Working capital | Overstated | No effect |
| Current ratio | Overstated | No effect |
| Retained earnings | Overstated | No effect |
| Net income | Overstated | Understated |

*Assume that the correct current ratio is greater than one.

EXERCISE 8-11 (10–15 minutes)

(a) $\frac{€390,000}{€200,000} = \underline{1.95 \text{ to } 1}$

(b) $\frac{€390,000 + €22,000 - €13,000 + €3,000}{€200,000 - €20,000} = \frac{€402,000}{€180,000} = \underline{2.23 \text{ to } 1}$

(c)

| Event | Effect of Error | Adjust Income Increase (Decrease) |
|-----------------------------------------------------------------------------------------------------|----------------------|--------------------------------------|
| 1. Understatement of ending inventory | Decreases net income | €22,000 |
| 2. Overstatement of purchases | Decreases net income | 20,000 |
| 3. Overstatement of ending inventory | Increases net income | (13,000) |
| 4. Overstatement of advertising expense; understatement of cost of goods sold, assuming goods sold. | | |
| | | <u>0</u> |
| | | <u>€29,000</u> |

EXERCISE 8-12 (15–20 minutes)

| Errors in Inventories | | | | | | |
|-----------------------|-------------------------------------|-------------------------------------------|-----------------------------------------------|-----------------------------------------------|---------------------------------------------|---------------------------------|
| <u>Year</u> | <u>Net Income Per Books</u> | <u>Add Overstate- ment Jan. 1</u> | <u>Deduct Understate- ment Jan. 1</u> | <u>Deduct Overstate- ment Dec. 31</u> | <u>Add Understate- ment Dec. 31</u> | <u>Corrected Net Income</u> |
| 2006 | \$ 50,000 | | | \$5,000 | | \$ 45,000 |
| 2007 | 52,000 | \$5,000 | | 9,000 | | 48,000 |
| 2008 | 54,000 | 9,000 | | | \$11,000 | 74,000 |
| 2009 | 56,000 | | \$11,000 | | | 45,000 |
| 2010 | 58,000 | | | | 2,000 | 60,000 |
| 2011 | <u>60,000</u> | | 2,000 | 10,000 | | <u>48,000</u> |
| | <u>\$330,000</u> | | | | | <u>\$320,000</u> |

EXERCISE 8-13 (20–25 minutes)

(a) 1. FIFO 500 @ \$6.79 = \$3,395
 300 @ \$6.60 = 1,980
 \$5,375

2. Average cost

$$\frac{\text{Total cost}}{\text{Total units}} = \frac{\$33,655^*}{5,300} = \$6.35 \text{ average cost per unit}$$

$$800 @ \$6.35 = \underline{\$5,080}$$

| <u>*Units</u> | | <u>Price</u> | | <u>Total Cost</u> |
|---------------|---|---------------|---|-------------------|
| 600 | @ | \$6.00 | = | \$ 3,600 |
| 1,500 | @ | \$6.08 | = | 9,120 |
| 800 | @ | \$6.40 | = | 5,120 |
| 1,200 | @ | \$6.50 | = | 7,800 |
| 700 | @ | \$6.60 | = | 4,620 |
| <u>500</u> | @ | <u>\$6.79</u> | = | <u>3,395</u> |
| <u>5,300</u> | | | | <u>\$33,655</u> |

EXERCISE 8-13 (Continued)

(b) 1. FIFO 500 @ \$6.79 = \$3,395
 300 @ \$6.60 = 1,980
 \$5,375

2. Average cost.

| Date | Purchased | | Sold | | Balance | | |
|---------|-----------------|--------------|-----------------|--------------|-----------------|--------------|---------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost | Amount |
| April 1 | | | | | 600 | \$6.0000 | \$3,600 |
| 3 | | | 500 | \$6.000 | 100 | 6.0000 | 600 |
| 4 | 1,500 | \$6.08 | | | 1,600 | 6.0750 | 9,720 |
| 8 | 800 | 6.40 | | | 2,400 | 6.1833 | 14,840 |
| 9 | | | 1,300 | 6.1833 | 1,100 | 6.1833 | 6,802 |
| 11 | | | 600 | 6.1833 | 500 | 6.1833 | 3,092 |
| 13 | 1,200 | 6.50 | | | 1,700 | 6.4071 | 10,892 |
| 21 | 700 | 6.60 | | | 2,400 | 6.4633 | 15,512 |
| 23 | | | 1,200 | 6.4633 | 1,200 | 6.4633 | 7,756 |
| 27 | | | 900 | 6.4633 | 300 | 6.4633 | 1,939 |
| 29 | 500 | 6.79 | | | 800 | 6.6675 | 5,334 |

Inventory April 30 is \$5,334

(c) FIFO; older items with lower costs are assumed sold first.

EXERCISE 8-14 (15–20 minutes)

(a) **ESPLANADE COMPANY**
Computation of Inventory for Product
BAP Under Specific Identification Inventory Method
March 31, 2010

| | <u>Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|------------------------------------|--------------|------------------|-------------------|
| Beginning inventory (portion)..... | 400 | \$8.00 | \$ 3,200 |
| January 5, 2010 (portion)..... | <u>1,100</u> | 9.00 | <u>9,900</u> |
| March 31, 2010, inventory | <u>1,500</u> | | <u>\$13,100</u> |

(b) **ESPLANADE COMPANY**
Computation of Inventory for Product
BAP Under FIFO Inventory Method
March 31, 2010

| | <u>Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|----------------------------------|--------------|------------------|-------------------|
| March 26, 2010 | 600 | \$12.00 | \$ 7,200 |
| February 16, 2010..... | 800 | 11.00 | 8,800 |
| January 25, 2010 (portion) | <u>100</u> | 10.00 | <u>1,000</u> |
| March 31, 2010, inventory | <u>1,500</u> | | <u>\$17,000</u> |

(c) **ESPLANADE COMPANY**
Computation of Inventory for Product
BAP Under Weighted-Average Inventory Method
March 31, 2010

| | <u>Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|--------------------------|--------------|------------------|-------------------|
| Beginning inventory..... | 600 | \$ 8.00 | \$ 4,800 |
| January 5, 2010 | 1,100 | 9.00 | 9,900 |
| January 25, 2010..... | 1,300 | 10.00 | 13,000 |
| February 16, 2010..... | 800 | 11.00 | 8,800 |
| March 26, 2010 | <u>600</u> | 12.00 | <u>7,200</u> |
| | <u>4,400</u> | | <u>\$43,700</u> |

Weighted-average cost

(\$43,700 ÷ 4,400) \$ 9.93*

| | | | |
|---------------------------------|--------------|----------------|-----------------|
| March 31, 2010, inventory | <u>1,500</u> | <u>\$ 9.93</u> | <u>\$14,895</u> |
|---------------------------------|--------------|----------------|-----------------|

*Rounded off.

EXERCISE 8-15 (15–20 minutes)

- (a) 1. 2,100 units available for sale – 1,400 units sold = 700 units in the ending inventory.

$$500 @ \$4.58 = \$2,290$$

$$\underline{200 @ 4.60 = 920}$$

$$\underline{700} \qquad \underline{\$3,210} \text{ Ending inventory at FIFO cost.}$$

2. \$9,324 cost of goods available for sale ÷ 2,100 units available for sale = \$4.44 weighted-average unit cost.

$$700 \text{ units} \times \$4.44 = \underline{\$3,108} \text{ Ending inventory at weighted-average cost.}$$

- (b) 1. FIFO will yield the highest gross profit because this method will yield the lowest cost of goods sold figure in the situation presented. The company has experienced rising purchase prices for its inventory acquisitions. In a period of rising prices, FIFO will yield the lowest cost of goods sold because the most recent purchase prices (which are the higher prices in this case) are used to cost the ending inventory while the older (and lower) purchase prices are used to price cost of goods sold.

2. FIFO will yield the highest ending inventory because FIFO uses the most recent purchase prices to cost the ending inventory units. The company has experienced rising purchase prices. The most recent costs in this case are the higher costs.

EXERCISE 8-16 (15–20 minutes)

| | First-in, first-out | Average cost |
|------------------------------|---------------------|---------------------|
| Sales | €1,000,000 | €1,000,000 |
| Cost of goods sold: | | |
| Inventory, Jan. 1 | €120,000 | €120,000 |
| Purchases | <u>592,000*</u> | <u>592,000</u> |
| Cost of goods available..... | 712,000 | 712,000 |
| Inventory, Dec. 31 | <u>(260,000**)</u> | <u>(220,950***)</u> |
| Cost of goods sold..... | <u>452,000</u> | <u>491,050</u> |
| Gross profit | 548,000 | 508,950 |
| Operating expenses | <u>200,000</u> | <u>200,000</u> |
| Net income | <u>€ 348,000</u> | <u>€ 308,950</u> |

*Purchases

| | |
|----------------|-----------------|
| 6,000 @ €22 = | €132,000 |
| 10,000 @ €25 = | 250,000 |
| 7,000 @ €30 = | <u>210,000</u> |
| | <u>€592,000</u> |

**Computation of inventory, Dec. 31:

First-in, first-out:

| | |
|---------------------|-----------------|
| 7,000 units @ €30 = | €210,000 |
| 2,000 units @ €25 = | <u>50,000</u> |
| | <u>€260,000</u> |

***Average cost:

| | |
|----------------------|-----------------|
| 6,000 @ €20 = | €120,000 |
| 6,000 @ €22 = | 132,000 |
| 10,000 @ €25 = | 250,000 |
| <u>7,000 @ €30 =</u> | <u>210,000</u> |
| <u>29,000</u> | <u>€712,000</u> |

Average cost/unit = €712,000 ÷ 29,000 = €24.55 (rounded)

Ending inventory = €24.55 X 9,000 = €220,950

***EXERCISE 8-17 (15–20 minutes)**

| (a) | | Cost of Goods Sold | | Ending Inventory | |
|-----|-------------|---------------------------|------------------------|-------------------------|-----------------------|
| 1. | LIFO | 500 @ \$13 = | \$ 6,500 | 300 @ \$10 = | \$3,000 |
| | | 450 @ \$11 = | 4,950 | 350 @ \$11 = | 3,850 |
| | | | <u>\$11,450</u> | | <u>\$6,850</u> |
| 2. | FIFO | 300 @ \$10 = | \$ 3,000 | 500 @ \$13 = | \$6,500 |
| | | 650 @ \$11 = | 7,150 | 150 @ \$11 = | 1,650 |
| | | | <u>\$10,150</u> | | <u>\$8,150</u> |

| | | | |
|-----|-------------|---------------------|------------------------|
| (b) | LIFO | 100 @ \$10 = | \$ 1,000 |
| | | 300 @ \$11 = | 3,300 |
| | | 250 @ \$13 = | 3,250 |
| | | | <u>\$ 7,550</u> |

| | | |
|-----|----------------------------|--------------------------------------------------------------|
| (c) | Sales | \$24,050 = (\$24 X 200) + (\$25 X 500) + (\$27 X 250) |
| | Cost of Goods Sold | <u>10,150</u> |
| | Gross Profit (FIFO) | <u>\$13,900</u> |

Note: FIFO periodic and FIFO perpetual provide the same gross profit and inventory value.

- (d) **LIFO matches more current costs with revenue. When prices are rising (as is generally the case), this results in a higher amount for cost of goods sold and a lower gross profit. As indicated in this exercise, prices were rising and cost of goods sold under LIFO was higher.**

***EXERCISE 8-18 (20–25 minutes)**

(a) 1. LIFO 600 @ \$6.00 = \$3,600
 200 @ \$6.08 = 1,216
 \$4,816

2. Average cost

$$\frac{\text{Total cost}}{\text{Total units}} = \frac{\$33,655^*}{5,300} = \$6.35 \text{ average cost per unit}$$

800 @ \$6.35 = \$5,080

| <u>*Units</u> | | <u>Price</u> | | <u>Total Cost</u> |
|---------------|---|---------------|---|-------------------|
| 600 | @ | \$6.00 | = | \$ 3,600 |
| 1,500 | @ | \$6.08 | = | 9,120 |
| 800 | @ | \$6.40 | = | 5,120 |
| 1,200 | @ | \$6.50 | = | 7,800 |
| 700 | @ | \$6.60 | = | 4,620 |
| <u>500</u> | @ | <u>\$6.79</u> | = | <u>3,395</u> |
| <u>5,300</u> | | | | <u>\$33,655</u> |

(b) 1. FIFO 500 @ \$6.79 = \$3,395
 300 @ \$6.60 = 1,980
 \$5,375

2. LIFO 100 @ \$6.00 = \$ 600
 200 @ \$6.08 = 1,216
 500 @ \$6.79 = 3,395
 \$5,211

***EXERCISE 8-18 (Continued)**

| | | |
|-----|--------------------------------------|-----------------|
| (c) | Total merchandise available for sale | \$33,655 |
| | Less inventory (FIFO) | <u>5,375</u> |
| | Cost of goods sold | <u>\$28,280</u> |

(d) FIFO will show the highest income in an inflationary period.

***EXERCISE 8-19 (15–20 minutes)**

(a) **MILLS COMPANY**
Computation of Inventory for Product
Zone Under FIFO Inventory Method
March 31, 2010

| | <u>Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|---------------------------------|--------------|------------------|-------------------|
| March 26, 2010..... | 600 | \$12.00 | \$ 7,200 |
| February 16, 2010 | 800 | 11.00 | 8,800 |
| January 25, 2010 (portion)..... | <u>100</u> | 10.00 | <u>1,000</u> |
| March 31, 2010, inventory | <u>1,500</u> | | <u>\$17,000</u> |

(b) **MILLS COMPANY**
Computation of Inventory for Product
Zone Under LIFO Inventory Method
March 31, 2010

| | <u>Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|---------------------------------|--------------|------------------|-------------------|
| Beginning inventory | 600 | \$8.00 | \$ 4,800 |
| January 5, 2010 (portion) | <u>900</u> | 9.00 | <u>8,100</u> |
| March 31, 2010, inventory | <u>1,500</u> | | <u>\$12,900</u> |

***EXERCISE 8-19 (Continued)**

(c)

MILLS COMPANY
Computation of Inventory for Product
Zone Under Weighted Average Inventory Method
March 31, 2010

| | <u>Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|---------------------------------------------------|--------------|------------------|-------------------|
| Beginning inventory..... | 600 | \$ 8.00 | \$ 4,800 |
| January 5, 2010..... | 1,100 | 9.00 | 9,900 |
| January 25, 2010..... | 1,300 | 10.00 | 13,000 |
| February 16, 2010..... | 800 | 11.00 | 8,800 |
| March 26, 2010 | 600 | 12.00 | 7,200 |
| | <u>4,400</u> | | <u>\$43,700</u> |
| | | | |
| Weighted-average cost (\$43,700 ÷ 4,400) | | <u>\$ 9.93*</u> | |
| | | | |
| March 31, 2010, inventory | <u>1,500</u> | <u>\$ 9.93</u> | <u>\$14,895</u> |

*Rounded off.

***EXERCISE 8-20 (10–15 minutes)**

(a) (1) 400 @ \$30 = \$12,000
110 @ \$25 = 2,750
\$14,750

(2) 400 @ \$20 = \$ 8,000
110 @ \$25 = 2,750
\$10,750

(b) (1) FIFO \$14,750 [same as (a)]

(2) LIFO 100 @ \$20 = \$ 2,000
10 @ \$25 = 250
400 @ \$30 = 12,000
\$14,250

***EXERCISE 8-21 (15–20 minutes)**

| | First-in, first-out | Last-in, first-out |
|------------------------------|----------------------------|---------------------------|
| Sales | \$1,000,000 | \$1,000,000 |
| Cost of goods sold: | | |
| Inventory, Jan. 1 | \$120,000 | \$120,000 |
| Purchases | <u>592,000*</u> | <u>592,000</u> |
| Cost of goods available..... | 712,000 | 712,000 |
| Inventory, Dec. 31 | <u>(260,000**)</u> | <u>(186,000***)</u> |
| Cost of goods sold..... | <u>452,000</u> | <u>526,000</u> |
| Gross profit | 548,000 | 474,000 |
| Operating expenses | <u>200,000</u> | <u>200,000</u> |
| Net income | <u>\$ 348,000</u> | <u>\$ 274,000</u> |

***Purchases**

| | |
|-----------------|------------------|
| 6,000 @ \$22 = | \$132,000 |
| 10,000 @ \$25 = | 250,000 |
| 7,000 @ \$30 = | <u>210,000</u> |
| | <u>\$592,000</u> |

****Computation of inventory, Dec. 31:**

First-in, first-out:

| | |
|----------------------|------------------|
| 7,000 units @ \$30 = | \$210,000 |
| 2,000 units @ \$25 = | <u>50,000</u> |
| | <u>\$260,000</u> |

*****Last-in, first-out:**

| | |
|----------------------|------------------|
| 6,000 units @ \$20 = | \$120,000 |
| 3,000 units @ \$22 = | <u>66,000</u> |
| | <u>\$186,000</u> |

***EXERCISE 8-22 (20–25 minutes)**

MICKIEWICZ CORPORATION
Schedules of Cost of Goods Sold
For the First Quarter Ended March 31, 2010

| | Schedule 1 <u>First-in, First-out</u> | Schedule 2 Last-in, <u>First-out</u> |
|----------------------------------------|------------------------------------------|-----------------------------------------|
| Beginning inventory..... | \$ 40,000 | \$ 40,000 |
| Plus purchases | <u>150,600*</u> | <u>150,600</u> |
| Cost of goods available for sale | 190,600 | 190,600 |
| Less ending inventory..... | <u>65,700</u> | <u>61,000</u> |
| Cost of goods sold | <u>\$124,900</u> | <u>\$129,600</u> |

*($\$33,600 + \$25,500 + \$38,700 + \$52,800$)

Schedules Computing Ending Inventory

| | <u>Units</u> |
|----------------------------------------|---------------|
| Beginning inventory..... | 10,000 |
| Plus purchases | <u>35,000</u> |
| Units available for sale..... | 45,000 |
| Less sales ($\$150,000 \div 5$)..... | <u>30,000</u> |
| Ending inventory | <u>15,000</u> |

The unit computation is the same for both assumptions, but the cost assigned to the units of ending inventory are different.

| <u>First-in, First-out (Schedule 1)</u> | <u>Last-in, First-out (Schedule 2)</u> |
|-----------------------------------------|----------------------------------------|
| 12,000 at \$4.40 = \$52,800 | 10,000 at \$4.00 = \$40,000 |
| <u>3,000 at \$4.30 = 12,900</u> | <u>5,000 at \$4.20 = 21,000</u> |
| <u>15,000 \$65,700</u> | <u>15,000 \$61,000</u> |

***EXERCISE 8-23 (10–15 minutes)**

(a) **FIFO Ending Inventory 12/31/10**

| | | |
|----------------|---|--------------------------|
| 76 @ \$10.89* | = | \$ 827.64 |
| 34 @ \$11.88** | = | <u>403.92</u> |
| | | <u>\$1,231.56</u> |

*\$11.00 – [.01 (\$11.00)]

**\$12.00 – [.01 (\$12.00)]

(b) **LIFO Cost of Goods Sold—2010**

| | | |
|---------------|---|--------------------------|
| 76 @ \$10.89 | = | \$ 827.64 |
| 84 @ \$11.88 | = | 997.92 |
| 90 @ \$14.85* | = | 1,336.50 |
| 5 @ \$15.84** | = | <u>79.20</u> |
| | | <u>\$3,241.26</u> |

*\$15.00 – [.01 (\$15)]

**\$16.00 – [.01 (\$16)]

- (c) **FIFO matches older costs with revenue. When prices are declining, as in this case, this results in a higher amount for cost of goods sold. Therefore, it is recommended that FIFO be used by Tom Brady Shop to minimize taxable income.**

***EXERCISE 8-24 (10–15 minutes)**

- (a) **The difference between the inventory used for internal reporting purposes and LIFO is referred to as the Allowance to Reduce Inventory to LIFO or the LIFO reserve. The change in the allowance balance from one period to the next is called the LIFO effect (or as shown in this example, the LIFO adjustment).**
- (b) **LIFO subtracts inflation from inventory costs by charging the items purchased recently to cost of goods sold. As a result, ending inventory (assuming increasing prices) will be lower than under FIFO or average cost.**

***EXERCISE 8-24 (Continued)**

(c) Cash flow was computed as follows:

| | |
|--------------------------|-------------------|
| Revenue | \$3,200,000 |
| Cost of goods sold | (2,800,000) |
| Operating expenses | (150,000) |
| Income taxes..... | <u>(75,600)</u> |
| Cash flow | <u>\$ 174,400</u> |

If the company has any sales on account or payables, then the cash flow number is incorrect. It is assumed here that the cash basis of accounting is used.

(d) The company has extra cash because its taxes are less. The reason taxes are lower is because cost of goods sold (in a period of inflation) is higher under LIFO than FIFO. As a result, net income is lower which leads to lower income taxes. If prices are decreasing, the opposite effect results.

***EXERCISE 8-25 (25–30 minutes)**

(a) 1. Ending inventory—Specific Identification

| Date | No. Units | Unit Cost | Total Cost |
|------------|------------|-----------|----------------|
| December 2 | 100 | \$30 | \$3,000 |
| July 20 | <u>30</u> | 25 | <u>750</u> |
| | <u>130</u> | | <u>\$3,750</u> |

2. Ending inventory—FIFO

| Date | No. Units | Unit Cost | Total Cost |
|-------------|------------|-----------|----------------|
| December 2 | 100 | \$30 | \$3,000 |
| September 4 | <u>30</u> | 28 | <u>840</u> |
| | <u>130</u> | | <u>\$3,840</u> |

3. Ending inventory—LIFO

| Date | No. Units | Unit Cost | Total Cost |
|-----------|------------|-----------|----------------|
| January 1 | 100 | \$20 | \$2,000 |
| March 15 | <u>30</u> | 24 | <u>720</u> |
| | <u>130</u> | | <u>\$2,720</u> |

***EXERCISE 8-25 (Continued)**

4. Ending inventory—Average Cost

| Date | Explanation | No. Units | Unit Cost | Total Cost |
|-------------|---------------------|--------------|-----------|-----------------|
| January 1 | Beginning inventory | 100 | \$20 | \$ 2,000 |
| March 15 | Purchase | 300 | 24 | 7,200 |
| July 20 | Purchase | 300 | 25 | 7,500 |
| September 4 | Purchase | 200 | 28 | 5,600 |
| December 2 | Purchase | 100 | 30 | 3,000 |
| | | <u>1,000</u> | | <u>\$25,300</u> |

$$\$25,300 \div 1,000 = \$25.30$$

Ending Inventory—Average Cost

| No. Units | Unit Cost | Total Cost |
|-----------|-----------|------------|
| 130 | \$25.30 | \$3,289 |

(b) Double Extension Method

| Base-Year Costs | | | Current Costs | | |
|-----------------|-------------------------|---------|---------------|----------------------------|----------------|
| Units | Base-Year Cost Per Unit | Total | Units | Current-Year Cost Per Unit | Total |
| 130 | \$20 | \$2,600 | 100 | \$30 | \$3,000 |
| | | | 30 | \$28 | 840 |
| | | | | | <u>\$3,840</u> |

$$\frac{\text{Ending Inventory for the Period at Current Cost}}{\text{Ending Inventory for the Period at Base-Year Cost}} = \frac{\$3,840}{\$2,600} = 1.4769$$

| | |
|---------------------------------------------------------------|-----------------|
| Ending inventory at base-year prices (\$3,840 ÷ 1.4769) | \$ 2,600 |
| Base layer (100 units at \$20) | (2,000) |
| Increment in base-year dollars | 600 |
| Current index | <u>1.4769</u> |
| Increment in current dollars | 886 |
| Base layer (100 units at \$20) | <u>2,000</u> |
| Ending inventory at dollar-value LIFO | <u>\$ 2,886</u> |

***EXERCISE 8-26 (5–10 minutes)**

$\$98,000 - \$92,000 = \$6,000$ increase at base prices.

$\$99,200 - \$92,600 = \$6,600$ increase in dollar-value LIFO value.

$\$6,000 \times \text{Index} = \$6,600$.

$\text{Index} = \$6,600 \div \$6,000$.

Index = 110

***EXERCISE 8-27 (15–20 minutes)**

| | | |
|-----|---------------------------------------------------------------------------------|------------------|
| (a) | 12/31/10 inventory at 1/1/10 prices, $\$151,200 \div 1.12$ | \$135,000 |
| | Inventory 1/1/10..... | <u>160,000</u> |
| | Inventory decrease at base prices..... | <u>\$ 25,000</u> |
| | Inventory at 1/1/10 prices..... | \$160,000 |
| | Less decrease at 1/1/10 prices..... | <u>25,000</u> |
| | Inventory 12/31/10 under dollar-value LIFO method | <u>\$135,000</u> |
| (b) | 12/31/11 inventory at base prices, $\$195,500 \div 1.15$ | \$170,000 |
| | 12/31/10 inventory at base prices | <u>(135,000)</u> |
| | Inventory increment at base prices..... | <u>\$ 35,000</u> |
| | Inventory at 12/31/10 | \$135,000 |
| | Increment added during 2011 at 12/31/11 prices, $\$35,000 \times 1.15$ | <u>40,250</u> |
| | Inventory 12/31/11 | <u>\$175,250</u> |

***EXERCISE 8-28 (20–25 minutes)**

| | Current \$ | Price Index | Base Year \$ | Change from Prior Year |
|------|------------|-------------|--------------|---------------------------|
| 2007 | \$ 80,000 | 1.00 | \$ 80,000 | — |
| 2008 | 111,300 | 1.05 | 106,000 | +\$26,000 |
| 2009 | 108,000 | 1.20 | 90,000 | (16,000) |
| 2010 | 122,200 | 1.30 | 94,000 | +4,000 |
| 2011 | 147,000 | 1.40 | 105,000 | +11,000 |
| 2012 | 176,900 | 1.45 | 122,000 | +17,000 |

***EXERCISE 8-28 (Continued)**

Ending Inventory—Dollar-value LIFO:

| | | | | | |
|-------------|--------------------------|-------------------------|-------------|--------------------------|-------------------------|
| 2007 | <u>\$80,000</u> | | 2011 | \$80,000 @ 1.00 = | \$ 80,000 |
| | | | | 10,000 @ 1.05 = | 10,500 |
| 2008 | \$80,000 @ 1.00 = | \$ 80,000 | | 4,000 @ 1.30 = | 5,200 |
| | 26,000 @ 1.05 = | <u>27,300</u> | | 11,000 @ 1.40 = | <u>15,400</u> |
| | | <u>\$107,300</u> | | | <u>\$111,100</u> |
| 2009 | \$80,000 @ 1.00 = | \$ 80,000 | 2012 | \$80,000 @ 1.00 = | \$ 80,000 |
| | 10,000 @ 1.05 = | <u>10,500</u> | | 10,000 @ 1.05 = | 10,500 |
| | | <u>\$ 90,500</u> | | 4,000 @ 1.30 = | 5,200 |
| 2010 | \$80,000 @ 1.00 = | \$ 80,000 | | 11,000 @ 1.40 = | 15,400 |
| | 10,000 @ 1.05 = | 10,500 | | 17,000 @ 1.45 = | <u>24,650</u> |
| | 4,000 @ 1.30 = | <u>5,200</u> | | | <u>\$135,750</u> |
| | | <u>\$ 95,700</u> | | | |

***EXERCISE 8-29 (15–20 minutes)**

| Date | Current \$ | Price Index | Base-Year \$ | Change from Prior Year |
|----------------------|-------------------|--------------------|---------------------|-----------------------------------|
| Dec. 31, 2007 | \$ 70,000 | 1.00 | \$70,000 | — |
| Dec. 31, 2008 | 88,200 | 1.05 | 84,000 | +\$14,000 |
| Dec. 31, 2009 | 95,120 | 1.16 | 82,000 | (2,000) |
| Dec. 31, 2010 | 108,000 | 1.20 | 90,000 | +8,000 |
| Dec. 31, 2011 | 100,000 | 1.25 | 80,000 | (10,000) |

***EXERCISE 8-29 (Continued)**

Ending Inventory—Dollar-value LIFO:

Dec. 31, 2007 \$70,000

| | | |
|----------------------|--------------------------|------------------------|
| Dec. 31, 2008 | \$70,000 @ 1.00 = | \$70,000 |
| | 14,000 @ 1.05 = | <u>14,700</u> |
| | | <u>\$84,700</u> |

| | | |
|----------------------|--------------------------|------------------------|
| Dec. 31, 2009 | \$70,000 @ 1.00 = | \$70,000 |
| | 12,000 @ 1.05 = | <u>12,600</u> |
| | | <u>\$82,600</u> |

| | | |
|----------------------|--------------------------|------------------------|
| Dec. 31, 2010 | \$70,000 @ 1.00 = | \$70,000 |
| | 12,000 @ 1.05 = | 12,600 |
| | 8,000 @ 1.20 = | <u>9,600</u> |
| | | <u>\$92,200</u> |

| | | |
|----------------------|--------------------------|------------------------|
| Dec. 31, 2011 | \$70,000 @ 1.00 = | \$70,000 |
| | 10,000 @ 1.05 = | <u>10,500</u> |
| | | <u>\$80,500</u> |

TIME AND PURPOSE OF PROBLEMS

Problem 8-1 (Time 25–35 minutes)

Purpose—to provide a multipurpose problem with trade discounts, goods in transit, comparative FIFO and average cost computations, and inventorable cost identification.

Problem 8-2 (Time 25–35 minutes)

Purpose—to provide the student with eight different situations that require analysis to determine their impact on inventory, accounts payable, and net sales.

Problem 8-3 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to prepare general journal entries to record purchases on a gross and net basis.

Problem 8-4 (Time 30–40 minutes)

Purpose—to provide a problem where the student must compute the inventory using a FIFO, specific identification, and average cost assumption. These inventory value determinations must be made under two differing assumptions: (1) perpetual inventory records are kept in units only and (2) perpetual records are kept in dollars. Many detailed computations must be made in this problem.

Problem 8-5 (Time 25–35 minutes)

Purpose—to provide a problem where the student must compute the inventory using a FIFO and average cost assumption. These inventory value determinations must be made under two differing assumptions: (1) perpetual inventory records are kept in units only and (2) perpetual records are kept in dollars. This problem is very similar to Problem 8-4, except that the differences in inventory values must be explained.

Problem 8-6 (Time 20–25 minutes)

Purpose—to provide a problem where the student must compute cost of goods sold using FIFO and average cost, under both a periodic and perpetual system.

***Problem 8-7** (Time 40–55 minutes)

Purpose—to provide a problem where the student must compute the inventory using a FIFO, LIFO, and average cost assumption. These inventory value determinations must be made under two differing assumptions: (1) perpetual inventory records are kept in units only and (2) perpetual records are kept in dollars. Many detailed computations must be made in this problem.

***Problem 8-8** (Time 40–55 minutes)

Purpose—to provide a problem where the student must compute the inventory using a FIFO, LIFO, and average cost assumption. These inventory value determinations must be made under two differing assumptions: (1) perpetual inventory records are kept in units only and (2) perpetual records are kept in dollars. This problem is very similar to Problem 8-7, except that the differences in inventory values must be explained.

***Problem 8-9** (Time 25–35 minutes)

Purpose—to provide a problem where the student must compute cost of goods sold using FIFO, LIFO, and weighted average, under both a periodic and perpetual system.

***Problem 8-10** (Time 30–40 minutes)

Purpose—to provide a problem where the student must identify the accounts that would be affected if LIFO had been used rather than FIFO for purposes of computing inventories.

Time and Purpose of Problems (Continued)

***Problem 8-11** (Time 30–40 minutes)

Purpose—to provide a problem which covers the use of inventory pools for dollar-value LIFO. The student is required to compute ending inventory, cost of goods sold, and gross profit using dollar-value LIFO, first with one inventory pool and then with three pools.

***Problem 8-12** (Time 25–35 minutes)

Purpose—the provide a problem in which the student computes the internal conversion price indexes for a LIFO inventory pool and then computes the inventory amounts using the dollar-value LIFO method.

***Problem 8-13** (Time 30–35 minutes)

Purpose—to provide the student with the opportunity to compute inventories using the dollar-value approach. An index must be developed in this problem to price the new layers. This problem will prove difficult for the student because the indexes are hidden.

***Problem 8-14** (Time 40–50 minutes)

Purpose—to provide the student with an opportunity to write a memo on how a dollar-value LIFO pool works. In addition, the student must explain the step-by-step procedure used to compute dollar value LIFO.

SOLUTIONS TO PROBLEMS

PROBLEM 8-1

1. $\$175,000 - (\$175,000 \times .20) = \$140,000$;
 $\$140,000 - (\$140,000 \times .10) = \underline{\$126,000}$, cost of goods purchased
2. $\$1,100,000 + \$69,000 = \$1,169,000$. The \$69,000 of goods in transit on which title had passed on December 24 (f.o.b. shipping point) should be added to 12/31/10 inventory. The \$29,000 of goods shipped (f.o.b. shipping point) on January 3, 2011, should remain part of the 12/31/10 inventory.
3. Because no date was associated with the units issued or sold, the periodic (rather than perpetual) inventory method must be assumed.

| | | |
|-----------------------------|---------------------|------------------|
| <u>FIFO inventory cost:</u> | 1,000 units at \$24 | \$ 24,000 |
| | 1,000 units at 23 | <u>23,000</u> |
| | Total | <u>\$ 47,000</u> |

| | | |
|----------------------|--------------------|------------------|
| <u>Average cost:</u> | 1,500 at \$21 | \$ 31,500 |
| | 2,000 at 22 | 44,000 |
| | 3,500 at 23 | 80,500 |
| | <u>1,000 at 24</u> | <u>24,000</u> |
| Totals | <u>8,000</u> | <u>\$180,000</u> |

$$\$180,000 \div 8,000 = \$22.50$$

Ending inventory (2,000 X \$22.50) is \$45,000.

PROBLEM 8-1 (Continued)

4. The inventoriable costs for 2011 are:

| | | |
|--------------------------------|--------------|------------------|
| Merchandise purchased | | \$909,400 |
| Add: Freight-in | | <u>22,000</u> |
| | | 931,400 |
| Deduct: Purchase returns | \$16,500 | |
| Purchase discounts | <u>6,800</u> | <u>23,300</u> |
| Inventoriable cost | | <u>\$908,100</u> |

| |
|--------------------|
| PROBLEM 8-2 |
|--------------------|

DIMITRI COMPANY
Schedule of Adjustments
December 31, 2010

| | <u>Inventory</u> | <u>Accounts Payable</u> | <u>Net Sales</u> |
|--------------------------|---------------------------|-----------------------------|---------------------------|
| Initial amounts | <u>\$1,520,000</u> | <u>\$1,200,000</u> | <u>\$8,150,000</u> |
| Adjustments: | | | |
| 1. | NONE | NONE | (40,000) |
| 2. | 76,000 | 76,000 | NONE |
| 3. | 30,000 | NONE | NONE |
| 4. | 32,000 | NONE | (47,000) |
| 5. | 26,000 | NONE | NONE |
| 6. | 27,000 | NONE | NONE |
| 7. | NONE | 56,000 | NONE |
| 8. | <u>4,000</u> | <u>8,000</u> | <u>NONE</u> |
| Total adjustments | <u>195,000</u> | <u>140,000</u> | <u>(87,000)</u> |
| Adjusted amounts | <u>\$1,715,000</u> | <u>\$1,340,000</u> | <u>\$8,063,000</u> |

1. The \$31,000 of tools on the loading dock were properly included in the physical count. The sale should not be recorded until the goods are picked up by the common carrier. Therefore, no adjustment is made to inventory, but sales must be reduced by the \$40,000 billing price.
2. The \$76,000 of goods in transit from a vendor to Dimitri were shipped f.o.b. shipping point on 12/29/10. Title passes to the buyer as soon as goods are delivered to the common carrier when sold f.o.b. shipping point. Therefore, these goods are properly includable in Dimitri's inventory and accounts payable at 12/31/10. Both inventory and accounts payable must be increased by \$76,000.
3. The work-in-process inventory sent to an outside processor is Dimitri's property and should be included in ending inventory. Since this inventory was not in the plant at the time of the physical count, the inventory column must be increased by \$30,000.

PROBLEM 8-2 (Continued)

- 4. The tools costing \$32,000 were recorded as sales (\$47,000) in 2010. However, these items were returned by customers on December 31, so 2010 net sales should be reduced by the \$47,000 return. Also, \$32,000 has to be added to the inventory column since these goods were not included in the physical count.**
- 5. The \$26,000 of Dimitri's tools shipped to a customer f.o.b. destination are still owned by Dimitri while in transit because title does not pass on these goods until they are received by the buyer. Therefore, \$26,000 must be added to the inventory column. No adjustment is necessary in the sales column because the sale was properly recorded in 2011 when the customer received the goods.**
- 6. The goods received from a vendor at 5:00 p.m. on 12/31/10 should be included in the ending inventory, but were not included in the physical count. Therefore, \$27,000 must be added to the inventory column. No adjustment is made to accounts payable, since the invoice was included in 12/31/10 accounts payable.**
- 7. The \$56,000 of goods received on 12/26/10 were properly included in the physical count of inventory; \$56,000 must be added to accounts payable since the invoice was not included in the 12/31/10 accounts payable balance.**
- 8. Since one-half of the freight-in cost (\$8,000) pertains to merchandise properly included in inventory as of 12/31/10, \$4,000 should be added to the inventory column. The remaining \$4,000 debit should be reflected in cost of goods sold. The full \$8,000 must be added to accounts payable since the liability was not recorded.**

| |
|--------------------|
| PROBLEM 8-3 |
|--------------------|

| | | | |
|--------|---------------------------------------|--------|--------|
| (a) 1. | 8/10 | | |
| | Purchases | 12,000 | |
| | Accounts Payable | | 12,000 |
| 8/13 | | | |
| | Accounts Payable..... | 1,200 | |
| | Purchase Returns and Allowances | | 1,200 |
| 8/15 | | | |
| | Purchases | 16,000 | |
| | Accounts Payable | | 16,000 |
| 8/25 | | | |
| | Purchases | 20,000 | |
| | Accounts Payable | | 20,000 |
| 8/28 | | | |
| | Accounts Payable..... | 16,000 | |
| | Cash..... | | 16,000 |

2. Purchases—addition in cost of goods sold section of income statement.

Purchase returns and allowances—deduction from purchases in cost of goods sold section of the income statement.

Accounts payable—current liability in the current liabilities section of the statement of financial position.

| | | | |
|--------|---------------------------------------------------------|--------|--------|
| (b) 1. | 8/10 | | |
| | Purchases | 11,760 | |
| | Accounts Payable (£12,000 X .98) | | 11,760 |
| 8/13 | | | |
| | Accounts Payable..... | 1,176 | |
| | Purchase Returns and Allowances (£1,200 X .98) | | 1,176 |

PROBLEM 8-3 (Continued)

| | | | |
|-----------------------------------------------------|--------------------------------------------------------------------------------|---------------|---------------|
| | 8/15 | | |
| Purchases | | 15,840 | |
| Accounts Payable (£16,000 X .99) | | | 15,840 |
| | 8/25 | | |
| Purchases | | 19,600 | |
| Accounts Payable (£20,000 X .98) | | | 19,600 |
| | 8/28 | | |
| Accounts Payable | | 15,840 | |
| Purchase Discounts Lost | | 160 | |
| Cash | | | 16,000 |
| 2. | 8/31 | | |
| Purchase Discounts Lost | | 216 | |
| Accounts Payable | | | |
| (.02 X [£12,000 – £1,200]) | | | 216 |
| 3. | Same as part (a) (2) except: | | |
| | Purchase Discounts Lost—treat as financial expense in income statement. | | |

- (c) The second method is better theoretically because it results in the inventory being carried net of purchase discounts, and purchase discounts not taken are shown as an expense. The first method is normally used, however, for practical reasons.

| |
|--------------------|
| PROBLEM 8-4 |
|--------------------|

| (a) | Purchases | | Sales | |
|-----|--------------------------------|----------------|-------------|--------------|
| | Total Units | | Total Units | |
| | April 1 (balance on hand) | 100 | April 5 | 300 |
| | April 4 | 400 | April 12 | 200 |
| | April 11 | 300 | April 27 | 800 |
| | April 18 | 200 | April 28 | <u>150</u> |
| | April 26 | 600 | Total units | <u>1,450</u> |
| | April 30 | <u>200</u> | | |
| | Total units | 1,800 | | |
| | Total units sold | <u>(1,450)</u> | | |
| | Total units (ending inventory) | <u>350</u> | | |

Assuming costs are not computed for each withdrawal:

1. Specific identification.

| No. Units | Unit Cost | Total Cost |
|-----------|-----------|----------------|
| 100 | \$5.00 | \$ 500 |
| 250 | 5.60 | <u>1,400</u> |
| | | <u>\$1,900</u> |

2. First-in, first-out.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|-----------|-----------|----------------|
| April 30 | 200 | \$5.80 | \$1,160 |
| April 26 | 150 | 5.60 | <u>840</u> |
| | | | <u>\$2,000</u> |

PROBLEM 8-4 (Continued)

3. Average cost.

Cost of Part X available.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|--------------|-----------|----------------|
| April 1 | 100 | \$5.00 | \$ 500 |
| April 4 | 400 | 5.10 | 2,040 |
| April 11 | 300 | 5.30 | 1,590 |
| April 18 | 200 | 5.35 | 1,070 |
| April 26 | 600 | 5.60 | 3,360 |
| April 30 | <u>200</u> | 5.80 | <u>1,160</u> |
| Total Available | <u>1,800</u> | | <u>\$9,720</u> |

Average cost per unit = $\$9,720 \div 1,800 = \5.40 .

Inventory, April 30 = $350 \times \$5.40 = \$1,890$.

(b) Assuming costs are computed for each withdrawal:

1. Specific identification.

The inventory would be the same in amount as in part (a), \$1,900.

2. First-in, first out.

The inventory would be the same in amount as in part (a), \$2,000.

PROBLEM 8-4 (Continued)

3. Average cost.

| Date | Purchased | | Sold | | Balance | | |
|----------|--------------|-----------|--------------|-----------|--------------|------------|-----------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost* | Amount |
| April 1 | 100 | \$5.00 | | | 100 | \$5.0000 | \$ 500.00 |
| April 4 | 400 | 5.10 | | | 500 | 5.0800 | 2,540.00 |
| April 5 | | | 300 | \$5.0800 | 200 | 5.0800 | 1,016.00 |
| April 11 | 300 | 5.30 | | | 500 | 5.2120 | 2,606.00 |
| April 12 | | | 200 | 5.2120 | 300 | 5.2120 | 1,563.60 |
| April 18 | 200 | 5.35 | | | 500 | 5.2672 | 2,633.60 |
| April 26 | 600 | 5.60 | | | 1,100 | 5.4487 | 5,993.60 |
| April 27 | | | 800 | 5.4487 | 300 | 5.4487 | 1,634.64 |
| April 28 | | | 150 | 5.4487 | 150 | 5.4487 | 817.33 |
| April 30 | 200 | 5.80 | | | 350 | 5.6495 | 1,977.33 |

Inventory April 30 is \$1,977.33

***Four decimal places are used to minimize rounding errors.**

| |
|--------------------|
| PROBLEM 8-5 |
|--------------------|

- (a) Assuming costs are not computed for each withdrawal (units received, 5,700, minus units issued, 4,700, equals ending inventory at 1,000 units):

1. First-in, first-out.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|-----------|-----------|---------------|
| Jan. 28 | 1,000 | ¥3.50 | <u>¥3,500</u> |

2. Average cost.

Cost of goods available:

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|--------------|-----------|----------------|
| Jan. 2 | 1,200 | ¥3.00 | ¥ 3,600 |
| Jan. 10 | 600 | 3.20 | 1,920 |
| Jan. 18 | 1,000 | 3.30 | 3,300 |
| Jan. 23 | 1,300 | 3.40 | 4,420 |
| Jan. 28 | <u>1,600</u> | 3.50 | <u>5,600</u> |
| Total Available | <u>5,700</u> | | <u>¥18,840</u> |

Average cost per unit = $¥18,840 \div 5,700 = ¥3.31$ (rounded)

Cost of inventory Jan. 31 = $1,000 \times ¥3.31 = \underline{¥3,310}$

- (b) Assuming costs are computed at the time of each withdrawal:

Under FIFO—Yes. The amount shown as ending inventory would be the same as in (a) above. In each case the units on hand would be assumed to be part of those purchased on Jan. 28.

Under Average Cost—No. A new average cost would be computed each time a withdrawal was made instead of only once for all items purchased during the year.

PROBLEM 8-5 (Continued)

The calculations to determine the inventory on this basis are given below.

1. **First-in, first-out.**
The inventory would be the same in amount as in part (a), ¥3,500.
2. **Average cost.**

| Date | Received | | Issued | | Balance | | |
|---------|--------------|-----------|--------------|-----------|--------------|------------|--------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost* | Amount |
| Jan. 2 | 1,200 | ¥3.00 | | | 1,200 | ¥3.0000 | ¥3,600 |
| Jan. 7 | | | 700 | \$3.0000 | 500 | 3.0000 | 1,500 |
| Jan. 10 | 600 | 3.20 | | | 1,100 | 3.1091 | 3,420 |
| Jan. 13 | | | 500 | 3.1091 | 600 | 3.1091 | 1,865 |
| Jan. 18 | 1,000 | 3.30 | 300 | 3.2281 | 1,300 | 3.2281 | 4,197 |
| Jan. 20 | | | 1,100 | 3.2281 | 200 | 3.2281 | 646 |
| Jan. 23 | 1,300 | 3.40 | | | 1,500 | 3.3773 | 5,066 |
| Jan. 26 | | | 800 | 3.3773 | 700 | 3.3773 | 2,364 |
| Jan. 28 | 1,600 | 3.50 | | | 2,300 | 3.4626 | 7,964 |
| Jan. 31 | | | 1,300 | 3.4626 | 1,000 | 3.4626 | 3,463 |

Inventory, January 31 is ¥3,463.

***Four decimal places are used to minimize rounding errors.**

PROBLEM 8-6

| | | |
|-----|--------------------------------|--------------|
| (a) | Beginning inventory | 1,000 |
| | Purchases (2,000 + 3,000)..... | <u>5,000</u> |
| | Units available for sale | 6,000 |
| | Sales (2,500 + 2,200)..... | <u>4,700</u> |
| | Goods on hand..... | <u>1,300</u> |

Periodic FIFO

| | |
|----------------------|----------------|
| 1,000 X €12 = | €12,000 |
| 2,000 X €18 = | 36,000 |
| <u>1,700 X €23 =</u> | <u>39,100</u> |
| <u>4,700</u> | <u>€87,100</u> |

(b) Perpetual FIFO

Same as periodic: €87,100

(c) Periodic weighted-average

| | | |
|---------------|-----------------|--------------------------------------|
| 1,000 X €12 = | € 12,000 | |
| 2,000 X €18 = | 36,000 | |
| 3,000 X €23 = | <u>69,000</u> | |
| | <u>€117,000</u> | ÷ 6,000 = <u>€19.50</u> |
| | | 4,700 X € 19.50 <u>€91,650</u> |

(d) Perpetual moving average

| Date | Purchased | Sold | Balance |
|------|-----------------------|-----------------------------|-----------------------------------|
| 1/1 | | | 1,000 X €12 = €12,000 |
| 2/4 | 2,000 X €18 = €36,000 | | 3,000 X €16 = 48,000 |
| 2/20 | | 2,500 X €16 = €40,000 | 500 X €16 = 8,000 |
| 4/2 | 3,000 X €23 = €69,000 | | 3,500 X €22 ^a = 77,000 |
| 11/4 | | 2,200 X €22 = <u>48,400</u> | 1,300 X €22 = 28,600 |
| | | <u>€88,400</u> | |

^a 500 X €16 = € 8,000

3,000 X €23 = 69,000

3,500 €77,000

(€77,000 ÷ 3,500 = €22)

***PROBLEM 8-7**

| (a) | Purchases | | Sales | |
|--------------------------------|----------------|--|-------------|--------------|
| | Total Units | | Total Units | |
| Sept. 1 (balance on hand) | 100 | | Sept. 5 | 300 |
| Sept. 4 | 400 | | Sept. 12 | 200 |
| Sept. 11 | 300 | | Sept. 27 | 800 |
| Sept. 18 | 200 | | Sept. 28 | <u>150</u> |
| Sept. 26 | 600 | | Total units | <u>1,450</u> |
| Sept. 30 | <u>200</u> | | | |
| Total units | 1,800 | | | |
| Total units sold | <u>(1,450)</u> | | | |
| Total units (ending inventory) | <u>350</u> | | | |

Assuming costs are not computed for each withdrawal:

1. First-in, first-out.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|-----------|-----------|----------------|
| Sept. 30 | 200 | \$5.80 | \$1,160 |
| Sept. 26 | 150 | 5.60 | <u>840</u> |
| | | | <u>\$2,000</u> |

2. Last-in, first-out.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|-----------|-----------|----------------|
| Sept. 1 | 100 | \$5.00 | \$ 500 |
| Sept. 4 | 250 | 5.10 | <u>1,275</u> |
| | | | <u>\$1,775</u> |

***PROBLEM 8-7 (Continued)**

3. Average cost.

Cost of Part X available.

| <u>Date of Invoice</u> | <u>No. Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|------------------------|------------------|------------------|-------------------|
| Sept. 1 | 100 | \$5.00 | \$ 500 |
| Sept. 4 | 400 | 5.10 | 2,040 |
| Sept. 11 | 300 | 5.30 | 1,590 |
| Sept. 18 | 200 | 5.35 | 1,070 |
| Sept. 26 | 600 | 5.60 | 3,360 |
| Sept. 30 | <u>200</u> | 5.80 | <u>1,160</u> |
| Total Available | <u>1,800</u> | | <u>\$9,720</u> |

Average cost per unit = $\$9,720 \div 1,800 = \5.40 .

Inventory, Sept. 30 = $350 \times \$5.40 = \$1,890$.

(b) Assuming costs are computed for each withdrawal:

1. First-in, first out.

The inventory would be the same in amount as in part (a), \$2,000.

***PROBLEM 8-7 (Continued)**

2. Last-in, first-out.

| Date | Purchased | | Sold | | Balance* | | |
|----------|--------------|-----------|--------------|--------------|--------------|-----------|--------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost | Amount |
| Sept. 1 | 100 | \$5.00 | | | 100 | \$5.00 | \$ 500 |
| Sept. 4 | 400 | 5.10 | | | 100 | 5.00 | 2,540 |
| | | | | | 400 | 5.10 | |
| Sept. 5 | | | 300 | \$5.10 | 100 | 5.00 | 1,010 |
| | | | | | 100 | 5.10 | |
| Sept. 11 | 300 | 5.30 | | | 100 | 5.00 | 2,600 |
| | | | | | 100 | 5.10 | |
| | | | | | 300 | 5.30 | |
| Sept. 12 | | | 200 | 5.30 | 100 | 5.00 | 1,540 |
| | | | | | 100 | 5.10 | |
| | | | | | 100 | 5.30 | |
| Sept. 18 | 200 | 5.35 | | | 100 | 5.00 | 2,610 |
| | | | | | 100 | 5.10 | |
| | | | | | 100 | 5.30 | |
| | | | | | 200 | 5.35 | |
| Sept. 26 | 600 | 5.60 | | | 100 | 5.00 | 5,970 |
| | | | | | 100 | 5.10 | |
| | | | | | 100 | 5.30 | |
| | | | | | 200 | 5.35 | |
| Sept. 27 | | | 600 @ | 5.60 | 100 | 5.00 | 1,540 |
| | | | 800 | <u>200 @</u> | 100 | 5.10 | |
| | | | | 5.35 | 100 | 5.30 | |
| Sept. 28 | | | 100 @ | 5.30 | 100 | 5.00 | 755 |
| | | | 150 | <u>50 @</u> | 50 | 5.10 | |
| | | | | 5.10 | | | |
| Sept. 30 | 200 | 5.80 | | | 100 | 5.00 | 1,915 |
| | | | | | 50 | 5.10 | |
| | | | | | 200 | 5.80 | |

Inventory Sept. 30 is \$1,915.

***The balance on hand is listed in detail after each transaction.**

***PROBLEM 8-7 (Continued)**

3. Average cost.

| Date | Purchased | | Sold | | Balance | | |
|----------|-----------------|--------------|-----------------|--------------|-----------------|---------------|-----------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost* | Amount |
| Sept. 1 | 100 | \$5.00 | | | 100 | \$5.0000 | \$ 500.00 |
| Sept. 4 | 400 | 5.10 | | | 500 | 5.0800 | 2,540.00 |
| Sept. 5 | | | 300 | \$5.0800 | 200 | 5.0800 | 1,016.00 |
| Sept. 11 | 300 | 5.30 | | | 500 | 5.2120 | 2,606.00 |
| Sept. 12 | | | 200 | 5.2120 | 300 | 5.2120 | 1,563.60 |
| Sept. 18 | 200 | 5.35 | | | 500 | 5.2672 | 2,633.60 |
| Sept. 26 | 600 | 5.60 | | | 1,100 | 5.4487 | 5,993.60 |
| Sept. 27 | | | 800 | 5.4487 | 300 | 5.4487 | 1,634.64 |
| Sept. 28 | | | 150 | 5.4487 | 150 | 5.4487 | 817.33 |
| Sept. 30 | 200 | 5.80 | | | 350 | 5.6495 | 1,977.33 |

Inventory Sept. 30 is \$1,977.33

***Four decimal places are used to minimize rounding errors.**

| |
|---------------------|
| *PROBLEM 8-8 |
|---------------------|

(a) Assuming costs are not computed for each withdrawal (units received, 5,700, minus units issued, 4,700, equals ending inventory at 1,000 units):

1. First-in, first-out.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|-----------|-----------|----------------|
| Jan. 28 | 1,000 | \$3.50 | <u>\$3,500</u> |

2. Last-in, first-out.

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|-----------|-----------|----------------|
| Jan. 2 | 1,000 | \$3.00 | <u>\$3,000</u> |

3. Average cost.

Cost of goods available:

| Date of Invoice | No. Units | Unit Cost | Total Cost |
|-----------------|--------------|-----------|-----------------|
| Jan. 2 | 1,200 | \$3.00 | \$ 3,600 |
| Jan. 10 | 600 | 3.20 | 1,920 |
| Jan. 18 | 1,000 | 3.30 | 3,300 |
| Jan. 23 | 1,300 | 3.40 | 4,420 |
| Jan. 28 | <u>1,600</u> | 3.50 | <u>5,600</u> |
| Total Available | <u>5,700</u> | | <u>\$18,840</u> |

Average cost per unit = $\$18,840 \div 5,700 = \3.31 (rounded)

Cost of inventory Jan. 31 = $1,000 \times \$3.31 = \underline{\underline{\$3,310}}$

(b) Assuming costs are computed at the time of each withdrawal:

Under FIFO—Yes. The amount shown as ending inventory would be the same as in (a) above. In each case the units on hand would be assumed to be part of those purchased on Jan. 28.

Under LIFO—No. During the month the available balance dropped below the ending inventory quantity so that the layers of oldest costs were partially liquidated during the month.

***PROBLEM 8-8 (Continued)**

Under Average Cost—No. A new average cost would be computed each time a withdrawal was made instead of only once for all items purchased during the year.

The calculations to determine the inventory on this basis are given below.

1. **First-in, first-out.**
The inventory would be the same in amount as in part (a), \$3,500.
2. **Last-in, first-out.**

| Date | Received | | Issued | | Balance | | |
|---------|--------------|-----------|--------------|-----------|--------------|------------|---------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost* | Amount |
| Jan. 2 | 1,200 | \$3.00 | | | 1,200 | \$3.00 | \$3,600 |
| Jan. 7 | | | 700 | \$3.00 | 500 | 3.00 | 1,500 |
| Jan. 10 | 600 | 3.20 | | | 500 | 3.00 | |
| | | | | | 600 | 3.20 | 3,420 |
| Jan. 13 | | | 500 | 3.20 | 500 | 3.00 | |
| | | | | | 100 | 3.20 | 1,820 |
| Jan. 18 | 1,000 | 3.30 | 300 | 3.30 | 500 | 3.00 | |
| | | | | | 100 | 3.20 | 4,130 |
| | | | | | 700 | 3.30 | |
| Jan. 20 | | | 700 | 3.30 | | | |
| | | | 100 | 3.20 | | | |
| | | | 300 | 3.00 | 200 | 3.00 | 600 |
| Jan. 23 | 1,300 | 3.40 | | | 200 | 3.00 | |
| | | | | | 1,300 | 3.40 | 5,020 |
| Jan. 26 | | | 800 | 3.40 | 200 | 3.00 | |
| | | | | | 500 | 3.40 | 2,300 |
| Jan. 28 | 1,600 | 3.50 | | | 200 | 3.00 | |
| | | | | | 500 | 3.40 | 7,900 |
| | | | | | 1,600 | 3.50 | |
| Jan. 31 | | | 1,300 | 3.50 | 200 | 3.00 | |
| | | | | | 500 | 3.40 | 3,350 |
| | | | | | 300 | 3.50 | |

Inventory, January 31 is \$3,350.

***PROBLEM 8-8 (Continued)**

3. Average cost.

| Date | Received | | Issued | | Balance | | |
|---------|--------------|-----------|--------------|-----------|--------------|------------|---------|
| | No. of units | Unit cost | No. of units | Unit cost | No. of units | Unit cost* | Amount |
| Jan. 2 | 1,200 | \$3.00 | | | 1,200 | \$3.0000 | \$3,600 |
| Jan. 7 | | | 700 | \$3.0000 | 500 | 3.0000 | 1,500 |
| Jan. 10 | 600 | 3.20 | | | 1,100 | 3.1091 | 3,420 |
| Jan. 13 | | | 500 | 3.1091 | 600 | 3.1091 | 1,865 |
| Jan. 18 | 1,000 | 3.30 | 300 | 3.2281 | 1,300 | 3.2281 | 4,197 |
| Jan. 20 | | | 1,100 | 3.2281 | 200 | 3.2281 | 646 |
| Jan. 23 | 1,300 | 3.40 | | | 1,500 | 3.3773 | 5,066 |
| Jan. 26 | | | 800 | 3.3773 | 700 | 3.3773 | 2,364 |
| Jan. 28 | 1,600 | 3.50 | | | 2,300 | 3.4626 | 7,964 |
| Jan. 31 | | | 1,300 | 3.4626 | 1,000 | 3.4626 | 3,463 |

Inventory, January 31 is \$3,463.

***Four decimal places are used to minimize rounding errors.**

***PROBLEM 8-9**

| | | |
|-----|--------------------------------|--------------|
| (a) | Beginning inventory | 1,000 |
| | Purchases (2,000 + 3,000)..... | <u>5,000</u> |
| | Units available for sale | 6,000 |
| | Sales (2,500 + 2,200)..... | <u>4,700</u> |
| | Goods on hand..... | <u>1,300</u> |

Periodic FIFO

| | |
|-----------------------|-----------------|
| 1,000 X \$12 = | \$12,000 |
| 2,000 X \$18 = | 36,000 |
| <u>1,700 X \$23 =</u> | <u>39,100</u> |
| <u>4,700</u> | <u>\$87,100</u> |

(b) **Perpetual FIFO**

Same as periodic: \$87,100

(c) **Periodic LIFO**

| | |
|-----------------------|-----------------|
| 3,000 X \$23 = | \$69,000 |
| <u>1,700 X \$18 =</u> | <u>30,600</u> |
| <u>4,700</u> | <u>\$99,600</u> |

(d) **Perpetual LIFO**

| Date | Purchased | Sold | Balance |
|------|-------------------------|-----------------------------------------|-----------------------------------------|
| 1/1 | | | 1,000 X \$12 = \$12,000 |
| 2/4 | 2,000 X \$18 = \$36,000 | | 1,000 X \$12 } 2,000 X \$18 } 48,000 |
| 2/20 | | 2,000 X \$18 } 500 X \$12 } \$42,000 | 500 X \$12 = 6,000 |
| 4/2 | 3,000 X \$23 = \$69,000 | | 500 X \$12 } 3,000 X \$23 } 75,000 |
| 11/4 | | 2,200 X \$23 = 50,600 | 500 X \$12 } 800 X \$23 } 24,400 |
| | | <u>\$92,600</u> | |

***PROBLEM 8-9 (Continued)**

(e) Periodic weighted-average

| | | | |
|----------------|------------------|--------------------------|------------------|
| 1,000 X \$12 = | \$ 12,000 | | |
| 2,000 X \$18 = | 36,000 | | |
| 3,000 X \$23 = | <u>69,000</u> | | 4,700 |
| | <u>\$117,000</u> | ÷ 6,000 = <u>\$19.50</u> | X <u>\$19.50</u> |
| | | | <u>\$91,650</u> |

(f) Perpetual moving-average

| <u>Date</u> | <u>Purchased</u> | <u>Sold</u> | <u>Balance</u> |
|-------------|-------------------------|------------------------------|------------------------------------|
| 1/1 | | | 1,000 X \$12 = \$12,000 |
| 2/4 | 2,000 X \$18 = \$36,000 | | 3,000 X \$16 = 48,000 |
| 2/20 | | 2,500 X \$16 = \$40,000 | 500 X \$16 = 8,000 |
| 4/2 | 3,000 X \$23 = \$69,000 | | 3,500 X \$22 ^a = 77,000 |
| 11/4 | | 2,200 X \$22 = <u>48,400</u> | 1,300 X \$22 = 28,600 |
| | | <u>\$88,400</u> | |

^a 500 X \$16 = \$ 8,000

3,000 X \$23 = 69,000

3,500 \$77,000

(\$77,000 ÷ 3,500 = \$22)

***PROBLEM 8-10**

The accounts in the 2011 financial statements which would be affected by a change to LIFO and the new amount for each of the accounts are as follows:

| Account | New amount for 2011 |
|------------------------|------------------------|
| (1) Cash | \$176,400 |
| (2) Inventory | 120,000 |
| (3) Retained earnings | 226,400 |
| (4) Cost of goods sold | 792,000 |
| (5) Income taxes | 101,600 |

The calculations for both 2010 and 2011 to support the conversion to LIFO are presented below.

| Income for the Years Ended | 12/31/10 | 12/31/11 |
|---------------------------------------------------------------|------------------|-------------------|
| Sales | \$900,000 | \$1,350,000 |
| Less: Cost of goods sold | 525,000 | 792,000 |
| Other expenses | 205,000 | 304,000 |
| | <u>730,000</u> | <u>1,096,000</u> |
| Income before taxes | 170,000 | 254,000 |
| Income taxes (40%) | 68,000 | 101,600 |
| Net income | <u>\$102,000</u> | <u>\$ 152,400</u> |
| | | |
| Cost of Good Sold and Ending Inventory for the Years Ended | 12/31/10 | 12/31/11 |
| Beginning inventory (40,000 X \$3.00) | \$120,000 | \$120,000 |
| Purchases (150,000 X \$3.50) | 525,000 | 792,000 |
| Cost of goods available | 645,000 | 912,000 |
| Ending inventory (40,000 X \$3.00) | (120,000) | (120,000) |
| Cost of goods sold | <u>\$525,000</u> | <u>\$792,000</u> |
| | | |
| Determination of Cash at | 12/31/10 | 12/31/11 |
| Income taxes under FIFO | \$ 76,000 | \$116,000 |
| Income taxes as calculated under LIFO | 68,000 | 101,600 |
| Increase in cash | 8,000 | 14,400 |
| Adjust cash at 12/31/11 for 2010 tax difference | — | 8,000 |
| Total increase in cash | 8,000 | 22,400 |
| Cash balance under FIFO | 130,000 | 154,000 |
| Cash balance under LIFO | <u>\$138,000</u> | <u>\$176,400</u> |

***PROBLEM 8-10 (Continued)**

| Determination of Retained Earnings at | 12/31/10 | 12/31/11 |
|--------------------------------------------------------------------|-------------------------|-------------------------|
| Net income under FIFO | \$114,000 | \$174,000 |
| Net income under LIFO | <u>(102,000)</u> | <u>(152,400)</u> |
| Reduction in retained earnings | 12,000 | 21,600 |
| Adjust retained earnings at 12/31/11 for 2010 reduction | <u>—</u> | <u>12,000</u> |
| Total reduction in retained earnings | 12,000 | 33,600 |
| Retained earnings under FIFO | <u>200,000</u> | <u>260,000</u> |
| Retained earnings under LIFO | <u>\$188,000</u> | <u>\$226,400</u> |

| |
|----------------------|
| *PROBLEM 8-11 |
|----------------------|

(a) 1. Ending inventory in units

| | | |
|-------------|-----------------------------|---------------|
| Portable | $6,000 + 15,000 - 14,000 =$ | 7,000 |
| Midsize | $8,000 + 20,000 - 24,000 =$ | 4,000 |
| Flat-screen | $3,000 + 10,000 - 6,000 =$ | <u>7,000</u> |
| | | <u>18,000</u> |

2. Ending inventory at current cost

| | | |
|-------------|------------------------|--------------------|
| Portable | $7,000 \times \$110 =$ | \$ 770,000 |
| Midsize | $4,000 \times \$300 =$ | 1,200,000 |
| Flat-screen | $7,000 \times \$500 =$ | <u>3,500,000</u> |
| | | <u>\$5,470,000</u> |

3. Ending inventory at base-year cost

| | | |
|-------------|------------------------|--------------------|
| Portable | $7,000 \times \$100 =$ | \$ 700,000 |
| Midsize | $4,000 \times \$250 =$ | 1,000,000 |
| Flat-screen | $7,000 \times \$400 =$ | <u>2,800,000</u> |
| | | <u>\$4,500,000</u> |

4. Price index

$$\$5,470,000 \div \$4,500,000 = 1.2156$$

5. Ending inventory

| | |
|-------------------------------|--------------------|
| $\$3,800,000 \times 1.0000 =$ | \$3,800,000 |
| $700,000^* \times 1.2156 =$ | <u>850,920</u> |
| | <u>\$4,650,920</u> |

$$*(\$4,500,000 - \$3,800,000 = \$700,000)$$

6. Cost of goods sold

| | |
|----------------------------------------------------|---------------------|
| Beginning inventory | \$ 3,800,000 |
| Purchases | |
| $[(15,000 \times \$110) + (20,000 \times \$300) +$ | |
| $(10,000 \times \$500)]$ | <u>12,650,000</u> |
| Cost of goods available | 16,450,000 |
| Ending inventory | <u>(4,650,920)</u> |
| Cost of goods sold | <u>\$11,799,080</u> |

***PROBLEM 8-11 (Continued)**

7. Gross profit

Sales

| | |
|------------------------------------------------------------------|----------------------------|
| [(14,000 X \$150) + (24,000 X \$405) + (6,000 X \$600)] | \$15,420,000 |
| Cost of goods sold | <u>11,799,080</u> |
| Gross profit..... | <u>\$ 3,620,920</u> |

(b) 1. Ending inventory at current cost restated to base cost

| | | |
|-------------|---------------------|---------------------------|
| Portable | \$ 770,000 ÷ 1.10 = | <u>\$ 700,000</u> |
| Midsize | 1,200,000 ÷ 1.20 = | <u>\$1,000,000</u> |
| Flat-screen | 3,500,000 ÷ 1.25 = | <u>\$2,800,000</u> |

2. Ending inventory

| | | |
|-------------|---------------------|---------------------------|
| Portable | \$ 600,000 X 1.00 = | \$ 600,000 |
| | 100,000 X 1.10 = | 110,000 |
| Midsize | 1,000,000 X 1.00 = | 1,000,000 |
| Flat-screen | 1,200,000 X 1.00 = | 1,200,000 |
| | 1,600,000 X 1.25 = | <u>2,000,000</u> |
| | | <u>\$4,910,000</u> |

3. Cost of good sold

| | |
|------------------------------|----------------------------|
| Cost of good available | \$16,450,000 |
| Ending inventory..... | <u>(4,910,000)</u> |
| Cost of goods sold | <u>\$11,540,000</u> |

4. Gross profit

| | |
|--------------------------|----------------------------|
| Sales..... | \$15,420,000 |
| Cost of goods sold | <u>11,540,000</u> |
| Gross profit..... | <u>\$ 3,880,000</u> |

***PROBLEM 8-12**

(a) **BONANZA WHOLESALERS INC.**
Computation of Internal Conversion Price Index
for Inventory Pool No. 1 Double Extension Method

| Current inventory at current-year cost | | 2010 | | 2011 |
|-------------------------------------------|-----------------|------------------|-----------------|------------------|
| Product A | 17,000 X \$36 = | \$612,000 | 13,000 X \$40 = | \$520,000 |
| Product B | 9,000 X \$26 = | <u>234,000</u> | 10,000 X \$32 = | <u>320,000</u> |
| | | <u>\$846,000</u> | | <u>\$840,000</u> |
| Current inventory at base cost | | | | |
| Product A | 17,000 X \$30 = | \$510,000 | 13,000 X \$30 = | \$390,000 |
| Product B | 9,000 X \$25 = | <u>225,000</u> | 10,000 X \$25 = | <u>250,000</u> |
| | | <u>\$735,000</u> | | <u>\$640,000</u> |

Conversion price index $\$846,000 \div \$735,000 = 1.15$ $\$840,000 \div \$640,000 = 1.31$

(b) **BONANZA WHOLESALERS INC.**
Computation of Inventory Amounts
Under Dollar-Value LIFO Method for Inventory Pool No. 1
at December 31, 2010 and 2011

| | Current Inventory at base cost | Conversion price index | Inventory at LIFO cost |
|------------------------------------|--------------------------------------|---------------------------|---------------------------|
| December 31, 2010 | | | |
| Base inventory | \$525,000 | 1.00 | \$525,000 |
| 2010 layer (\$735,000 – \$525,000) | <u>210,000</u> | 1.15 (a) | <u>241,500</u> |
| Total | <u>\$735,000</u> (a) | | <u>\$766,500</u> |
| December 31, 2011 | | | |
| Base inventory | \$525,000 | 1.00 | \$525,000 |
| 2010 layer (remaining) | <u>115,000</u> (b) | 1.15 (a) | <u>132,250</u> |
| Total | <u>\$640,000</u> (a) | | <u>\$657,250</u> |

- (a) Per schedule for instruction (a).
 (b) After liquidation of \$95,000 base cost (\$735,000 – \$640,000).

***PROBLEM 8-13**

| | Base-Year Cost | Index % | Dollar-Value LIFO |
|---------------------------------|---------------------------|----------------|------------------------------|
| <u>December 31, 2009</u> | | | |
| January 1, 2009, base | \$45,000 | 100 | \$45,000 |
| December 31, 2009, layer | <u>11,000</u> | 112* | <u>12,320</u> |
| | <u>\$56,000</u> | | <u>\$57,320</u> |
| <u>December 31, 2010</u> | | | |
| January 1, 2009, base | \$45,000 | 100 | \$45,000 |
| December 31, 2009, layer | 11,000 | 112 | 12,320 |
| December 31, 2010, layer | <u>12,400</u> | 128** | <u>15,872</u> |
| | <u>\$68,400</u> | | <u>\$73,192</u> |
| <u>December 31, 2011</u> | | | |
| January 1, 2009, base | \$45,000 | 100 | \$45,000 |
| December 31, 2009, layer | 11,000 | 112 | 12,320 |
| December 31, 2010, layer | 12,400 | 128 | 15,872 |
| December 31, 2011, layer | <u>1,600</u> | 130*** | <u>2,080</u> |
| | <u>\$70,000</u> | | <u>\$75,272</u> |

*\$62,700 ÷ \$56,000

**\$87,300 ÷ \$68,400

***\$90,800 ÷ \$70,000

***PROBLEM 8-14**

(a)

Schedule A

| | A | B | C | D |
|------|-------------------|--------------------|---------------------|-----------------------------------|
| | Current \$ | Price Index | Base-Year \$ | Change from Prior Year |
| 2006 | \$ 80,000 | 1.00 | \$ 80,000 | — |
| 2007 | 111,300 | 1.05 | 106,000 | +\$26,000 |
| 2008 | 108,000 | 1.20 | 90,000 | (16,000) |
| 2009 | 128,700 | 1.30 | 99,000 | +9,000 |
| 2010 | 147,000 | 1.40 | 105,000 | +6,000 |
| 2011 | 174,000 | 1.45 | 120,000 | +15,000 |

Schedule B

Ending Inventory-Dollar-Value LIFO:

| | | | | | |
|------|---------------------|------------------|------|---------------------|------------------|
| 2006 | | <u>\$ 80,000</u> | 2010 | \$80,000 @ \$1.00 = | \$ 80,000 |
| 2007 | \$80,000 @ \$1.00 = | \$ 80,000 | | 10,000 @ 1.05 = | 10,500 |
| | 26,000 @ 1.05 = | <u>27,300</u> | | 9,000 @ 1.30 = | 11,700 |
| | | <u>\$107,300</u> | | 6,000 @ 1.40 = | <u>8,400</u> |
| 2008 | \$80,000 @ 1.00 = | \$ 80,000 | | | <u>\$110,600</u> |
| | 10,000 @ 1.05 = | <u>10,500</u> | 2011 | \$80,000 @ 1.00 = | \$ 80,000 |
| | | <u>\$ 90,500</u> | | 10,000 @ 1.05 = | 10,500 |
| 2009 | \$80,000 @ 1.00 = | \$ 80,000 | | 9,000 @ 1.30 = | 11,700 |
| | 10,000 @ 1.05 = | 10,500 | | 6,000 @ 1.40 = | 8,400 |
| | 9,000 @ 1.30 = | <u>11,700</u> | | 15,000 @ 1.45 = | <u>21,750</u> |
| | | <u>\$102,200</u> | | | <u>\$132,350</u> |

***PROBLEM 8-14 (Continued)**

(b)

To: Richardson Company

From: Accounting Student

Subject: Dollar-Value LIFO Pool Accounting

Dollar-value LIFO is an inventory method which values groups or “pools” of inventory in layers of costs. It assumes that any goods sold during a given period were taken from the most recently acquired group of goods in stock and, consequently, any goods remaining in inventory are assumed to be the oldest goods, valued at the oldest prices.

Because dollar-value LIFO combines various related costs in groups or “pools,” no attempt is made to keep track of each individual inventory item. Instead, each group of annual purchases forms a new cost layer of inventory. Further, the most recent layer will be the first one carried to cost of goods sold during this period.

However, inflation distorts any cost of purchases made in subsequent years. To counteract the effect of inflation, this method measures the incremental change in each year’s ending inventory in terms of the first year’s (base year’s) costs. This is done by adjusting subsequent cost layers, through the use of a price index, to the base year’s inventory costs. Only after this adjustment can the new layer be valued at current-year prices.

To do this valuation, you need to know both the ending inventory at year-end prices and the price index used to adjust the current year’s new layer. The idea is to convert the current ending inventory into base-year costs. The difference between the current year’s and the previous year’s ending inventory expressed in base-year costs usually represents any inventory which has been purchased but not sold during the year, that is, the newest LIFO layer. This difference is then readjusted to express this most recent layer in current-year costs.

***PROBLEM 8-14 (Continued)**

1. Refer to Schedule A. To express each year's ending inventory (Column A) in terms of base-year costs, simply divide the ending inventory by the price index (Column B). For 2006, this adjustment would be $\$80,000/100\%$ or $\$80,000$; for 2007, it would be $\$111,300/105\%$, etc. The quotient (Column C) is thus expressed in base-year costs.
2. Next, compute the difference between the previous and the current years' ending inventory in base-year costs. Simply subtract the current year's base-year inventory from the previous year's. In 2007, the change is $+\$26,000$ (Column D).
3. Finally, express this increment in current-year terms. For the second year, this computation is straightforward: the base-year ending inventory value is added to the difference in #2 above multiplied by the price index. For 2007, the ending inventory for dollar-value LIFO would equal $\$80,000$ of base-year inventory plus the increment ($\$26,000$) times the price index (1.05) or $\$107,300$. The product is the most recent layer expressed in current-year prices. See Schedule B.

Be careful with this last step in subsequent years. Notice that, in 2008, the change from the previous year is $-\$16,000$, which causes the 2007 layer to be eroded during the period. Thus, the 2008 ending inventory is valued at the original base-year cost $\$80,000$ plus the remainder valued at the 2007 price index, $\$10,000$ times 1.05. See 2008 computation on Schedule B.

When valuing ending inventory, remember to include each yearly layer adjusted by that year's price index. Refer to Schedule B for 2009. Notice that the $+\$9,000$ change from the 2009 ending inventory indicates that the 2007 layer was not further eroded. Thus, ending inventory for 2009 would value the first $\$80,000$ worth of inventory at the base-year price index (1.00), the next $\$10,000$ (the remainder of the 2007 layer) at the 2007 price index (1.05), and the last $\$9,000$ at the 2009 price index (1.30).

These instructions should help you implement dollar-value LIFO in your inventory valuation.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 8-1 (Time 15–20 minutes)

Purpose—a short case designed to test the skills of the student in determining whether an item should be reported in inventory. In addition, the student is required to speculate as to why the company may wish to postpone recording this transaction.

CA 8-2 (Time 15–25 minutes)

Purpose—to provide the student with four questions about the carrying value of inventory. These questions must be answered and defended with rationale. The topics are shipping terms, freight-in, weighted-average cost vs. FIFO, and consigned goods.

CA 8-3 (Time 25–35 minutes)

Purpose—to provide a number of difficult financial reporting transactions involving inventories. This case is vague and much judgment is required in its analysis. Right or wrong answers should be discouraged; rather emphasis should be placed on the underlying rationale to defend a given position. Includes a product versus period cost transaction, proper classification of a possible inventory item, and a product financing arrangement.

CA 8-4 (Time 15–25 minutes)

Purpose—to provide the student with the opportunity to discuss the acceptability of alternative methods of reporting cash discounts.

CA 8-5 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to discuss the cost flow assumptions of average cost and FIFO. The student is also required to distinguish between weighted-average and moving-average and discuss the effect of average cost on the SFP and I/S in a period of rising prices.

CA 8-6 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to analyze the ethical implications of purchasing decisions under average cost.

***CA 8-7** (Time 20–25 minutes)

Purpose—to provide a broad overview to students as to why inventories must be included in the statement of financial position and income statement. In addition, students are asked to determine why taxable income and accounting income may be different. Finally, the conditions under which FIFO and LIFO may give different answers must be developed.

***CA 8-8** (Time 15–20 minutes)

Purpose—to provide the student with the opportunity to discuss the rationale for the use of the LIFO method of inventory valuation. The conditions that must exist before the tax benefits of LIFO will accrue also must be developed.

***CA 8-9** (Time 25–30 minutes)

Purpose—to provide the student with the opportunity to discuss the differences between traditional LIFO and dollar-value LIFO. In this discussion, the specific procedures employed in traditional LIFO and dollar-value LIFO must be examined. This case provides a good basis for discussing LIFO conceptual issues.

Time and Purposes of Concepts for Analysis (Continued)

***CA 8-10** (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to discuss the concept of a LIFO pool and its use in various LIFO methods. The student is also asked to define LIFO liquidation, to explain the use of price indexes in dollar-value LIFO, and to discuss the advantages of using dollar-value LIFO.

***CA 8-11** (Time 30–35 minutes)

Purpose—to provide the student with an opportunity to analyze the effect of changing from the FIFO method to the LIFO method on items such as ending inventory, net income, earnings per share, and year-end cash balance. The student is also asked to make recommendations considering the results from computation and other relevant factors.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 8-1

- (a) Purchased merchandise in transit at the end of an accounting period to which legal title has passed should be recorded as purchases within the accounting period. If goods are shipped f.o.b. shipping point, title passes to the buyer when the seller delivers the goods to the common carrier. Generally when the terms are f.o.b. shipping point, transportation costs must be paid by the buyer. This liability arises when the common carrier completes the delivery. Thus, the client has a liability for the merchandise and the freight.
- (b)
- | | | |
|------------------------------------------|--------|--------|
| Inventory | 35,300 | |
| Accounts Payable—Supplier | | 35,300 |
| | | |
| Inventory | 1,500 | |
| Accounts Payable—Transportation Co. | | 1,500 |
- (c) Possible reasons to postpone the recording of the transaction might include:
1. Desire to maintain a current ratio at a given level which would be affected by the additional inventory and accounts payable.
 2. Desire to minimize the impact of the additional inventory on other ratios such as inventory turnover.
 3. Possible tax ramifications.

CA 8-2

- (a) If the terms of the purchase are f.o.b. shipping point (manufacturer's plant), Strider Enterprises should include in its inventory goods purchased from its suppliers when the goods are shipped. For accounting purposes, title is presumed to pass at that time.
- (b) Freight-in expenditures should be considered an inventoriable cost because they are part of the price paid or the consideration given to acquire the asset.
- (c) Theoretically the net approach is the more appropriate because the net amount (1) provides a correct reporting of the cost of the asset and related liability and (2) presents the opportunity to measure the inefficiency of financial management if the discount is not taken. Many believe, however, that the difficulty involved in using the somewhat more complicated net method is not justified by the resulting benefits.
- (d) Products on consignment represent inventories owned by Strider Enterprises, which are physically transferred to another enterprise. However, Strider Enterprises retains title to the goods until their sale by the other company (Chavez Inc.).

The goods consigned are still included by Strider Enterprises in the inventory section of its statement of financial position. Often the inventory is reclassified from regular inventory to consigned inventory.

CA 8-3

- (a) According to IFRS, cost generally means that the sum of the applicable expenditures and charges directly or indirectly incurred in bringing an article to its existing condition and location. With respect to inventory, selling expenses are not part of the inventory costs. To the extent that warehousing is a necessary function of importing merchandise before it can be sold, certain elements of warehousing costs might be considered an appropriate cost of inventory in the warehouse. For example, if goods must be brought into the warehouse before they can be made ready for sale, the cost of bringing such goods into the warehouse would be considered a cost of inventory. Similarly, if goods must be handled in the warehouse for assembly or for removal of foreign packaging, etc., it would be appropriate to include such costs in inventory. However, costs involved in storing the goods for any additional period would appear to be period costs. Costs of delivering the goods from the warehouse would appear to be selling expenses related to the goods sold, and should not under any circumstances be allocated to goods that are still in the warehouse.

In theory, warehousing costs are considered a product cost because these costs are incurred to maintain the product in a salable condition. However, in practice, warehousing costs are most frequently treated as a period cost.

- (b) It is correct to conclude that obsolete items are excludable from inventory. Cost attributable to such items is “nonuseful” and “nonrecoverable” cost (except for possible scrap value) and should be written off. If the cost of obsolete items was simply excluded from ending inventory, the resultant cost of goods sold would be overstated by the amount of these costs. The cost of obsolete items, if immaterial, should be commingled with cost of goods sold. If material, these costs should be separately disclosed.
- (c) The primary use of the airplanes should determine their treatment on the statement of financial position. Since the airplanes are held primarily for sale, and chartering is only a temporary use, the airplanes should be classified as current assets. Depreciation would not be appropriate if the planes are considered inventory.
- (d) The transaction is a product financing arrangement and should be reported by the company as inventory with a related liability. The substance of the transaction is that inventory has been purchased and the fact that a trust is established to purchase the goods has no economic significance. Given that the company agrees to buy the coal over a certain period of time at specific prices, it appears clear that the company has the liability and not the trust.

CA 8-4

- (a) Cash discounts should **not** be accounted for as financial income when payments are made. Income should be recognized when the earnings process is complete (when the company sells the inventory). Furthermore, cash discounts should not be recorded when the payments are made because in order to properly match a cash discount with the related purchase, the cash discount should be recorded when the related purchase is recorded.

CA 8-4 (Continued)

- (b) Cash discounts should not be accounted for as a reduction of cost of goods sold for the period when payments are made. Cost of goods sold should be reduced when the earnings process is complete (when the company sells the inventory which has been reduced by the cash discounts). Furthermore, cash discounts should not be recorded when the payments are made because in order to properly match a cash discount with the related purchase, the cash discount should be recorded when the related purchase is recorded.
- (c) Cash discounts should be accounted for as a direct reduction of purchase cost because they reduce the cost of acquiring the inventories. Purchases should be recorded net of cash discounts to reflect the net cash to be paid. The primary basis of accounting for inventories is cost, which represents the price paid or consideration given to acquire an asset.

CA 8-5

- (a) The average-cost method assumes that inventories are sold or issued evenly from the stock on hand; and the FIFO method assumes that goods are sold or used in the order in which they are purchased (i.e., the first goods purchased are the first sold or used).
- (b) The weighted-average cost method combines the cost of all the purchases in the period with the cost of beginning inventory and divides the total costs by the total number of units to determine the average cost per unit. The moving-average cost method, on the other hand, calculates a new average unit cost when a purchase is made. The moving-average cost method is used with perpetual inventory records.
- (c) When the purchase prices of inventoriable items are rising for a significant period of time, the use of the average cost method (instead of FIFO) will result in a lower net income figure. The reason is that the average cost method matches all purchases against revenue. Since the prices of goods are rising, the average cost method will result in higher cost of goods sold, thus lower net income. On the statement of financial position, the ending inventory tends to be understated (i.e., lower than the most recent replacement cost) because the older goods have lower costs during a period of rising prices. In addition, retained earnings under the average cost method will be lower than that of the FIFO method when inflation exists.

CA 8-6

- (a) Major stakeholders are investors, creditors, Wilkens' management (including the president and plant accountant), and other employees of Wilkens Company. The inventory purchase in this instance reduces net income substantially and lowers Wilkens Company's tax liability. Current shareholders and company management benefit during the current year by this decision. However, the purchasing department may be concerned about inventory management and complications such as storage costs and possible inventory obsolescence.

Assuming awareness of these benefits and possible complications, the plant accountant may follow the president's recommendation without violating IFRS. The plant accountant also must consider whether this action is in the long-term best interests of the company and whether inventory amounts would provide a meaningful picture of Wilkens Company's financial condition.

- (b) No, the president would not recommend a year-end inventory purchase because under FIFO there would be no effect on net income.

***CA 8-7**

- (a)
 - 1. Inventories are unexpired costs and represent future benefits to the owner. A statement of financial position includes a listing of unexpired costs and future benefits of the owner's assets at a specific point in time. Because inventories are assets owned at the specific point in time for which a statement of financial position is prepared, they must be included in order that the owner's financial position will be presented fairly.
 - 2. Beginning and ending inventories are included in the computation of net income only for the purpose of arriving at the cost of goods sold during the period of time covered by the statement. Goods included in the beginning inventory which are no longer on hand are expired costs to be matched against revenues earned during the period. Goods included in the ending inventory are unexpired costs to be carried forward to a future period, rather than expensed.
- (b) Financial accounting has as its goal the proper reporting of financial transactions and events in accordance with international financial reporting standards. Income tax accounting has as its goal the reporting of taxable transactions and events in conformity with income tax laws and regulations. While the primary purpose of an income tax is the production of tax revenues to finance the operations of government, income tax laws and regulations are often produced by various forces. The income tax may be used as a tool of fiscal policy to stimulate all of the segments of the economy or to decelerate the economy. Some income tax laws may be passed because of political pressures brought to bear by individuals or industries. When the purposes of financial accounting and income tax accounting differ, it is often desirable to report transactions or events differently and to report the deferred tax consequences of any existing temporary differences as assets or liabilities.
- (c) FIFO and LIFO are inventory costing methods employed to measure the flow of costs. FIFO matches the first cost incurred with the first revenue produced while LIFO matches the last cost incurred with the first revenue produced after the cost is incurred. (This, of course, assumes a perpetual inventory system is in use and may not be precisely true if a periodic inventory system is employed.) If prices are changing, different costs would be matched with revenue for the same quantity sold depending upon whether the LIFO or FIFO system is in use. (In a period of rising or falling prices FIFO tends to value inventories at approximate fair value in the statement of financial position and LIFO tends to match approximately the current replacement cost of an item with the revenue produced.)

***CA 8-8**

- (a) Inventory profits occur when the inventory costs matched against sales are less than the replacement cost of the inventory. The cost of goods sold therefore is understated and net income is considered overstated. By using LIFO (rather than some method such as FIFO), more recent costs are matched against revenues and inventory profits are thereby reduced.
- (b) As long as the price level increases and inventory quantities do not decrease, a deferral of income taxes occurs under LIFO because the items most recently purchased at the higher price level are matched against revenues. It should be noted that where unit costs tend to decrease as production increases, the tax benefits that LIFO might provide are nullified. Also, where the inventory turnover is high, the difference between inventory methods is negligible.

*CA 8-9

- (a) 1. The LIFO method (periodic) allocates costs on the assumption that the last goods purchased are used first. If the amount of the inventory is computed at the end of the month under a periodic system, then it would be assumed that the total quantity sold or issued during the month would have come from the most recent purchases, and ordinarily no attempt would be made to compare the dates of purchases and sales.
2. The dollar-value method of LIFO inventory valuation is a procedure using dollars instead of units to measure increments or reductions in inventory. The method presumes that goods in the inventory can be classified into pools or homogenous groups. After the grouping into pools the ending inventory is priced at the end-of-year prices and a price index number is applied to convert the total pool to the base-year price level. Such a price index might be obtained from government sources, if available, or computed from the company's records. The pools or groupings of inventory are required where a single index number is inappropriate for all elements of the inventory.

After the closing inventory and the opening inventory have been placed on the same base-year price level, any difference between the two inventories is attributable to an increase or decrease in inventory quantity at the base-year price. An increase in quantity so determined is converted to the current-year price level and added to the amount of the opening inventory as a separate inventory layer. A decrease in quantity is deducted from the appropriate layer of opening inventory at the price level in existence when the layer was added.

- (b) The **advantages of the dollar-value method** over the traditional LIFO method are as follows:
1. The application of the LIFO method is simplified because, under the pooling procedure, it is not necessary to assign costs to opening and closing quantities of individual items. As a result, companies with inventories comprised of thousands of items may adopt the dollar-value method and minimize their bookkeeping costs.
 2. Base inventories are more easily maintained. The dollar-value method permits greater flexibility because each pool is made up of dollars rather than quantities. Thus, the problem of a LIFO liquidation is less possible.

The **disadvantages of the dollar-value method** as compared to the traditional LIFO method are as follows:

1. Due to technological innovations and improvements over time, material changes in the composition of inventory may occur. Items found in the ending inventory may not have existed during the base year. Thus, conversion of the ending inventory to base-year prices may be difficult to calculate or to justify conceptually. This may necessitate a periodic change in the choice of base year used.
2. Application of a year-end index, although widely used, implies use of the FIFO method. Other indexes used include beginning-of-year index and average indexes.
3. Determination of the degree of similarity between items for the purpose of grouping them into pools may be difficult and may be based upon arbitrary management decisions.

- (c) The basic **advantages of LIFO** are:

1. Matching—In LIFO, the more recent costs are matched against current revenues to provide a better measure of current earnings.
2. Tax benefits—As long as the price level increases and inventory quantities do not decrease, a deferral of income taxes occurs.
3. Improved cash flow—By receiving tax benefits from use of LIFO, the company may reduce its borrowings and related interest costs.

*CA 8-9 (Continued)

4. Future earnings hedge—With LIFO, a company's future reported earnings will not be affected substantially by future price declines. LIFO eliminates or substantially minimizes write-downs to market as a result of price decreases because the inventory value ordinarily will be much lower than net realizable value, unlike FIFO.

The major **disadvantages of LIFO** are:

1. Reduced earnings—Because current costs are matched against current revenues, net income is lower than it is under other inventory methods when price levels are increasing.
2. Inventory understated—The inventory valuation on the statement of financial position is ordinarily outdated because the oldest costs remain in inventory.
3. Physical flow—LIFO does not approximate physical flow of the items except in peculiar situations.
4. Real income not measured—LIFO falls short of measuring real income because it is often not an adequate substitute for replacement cost.
5. Involuntary liquidation—If the base or layers of old costs are partially liquidated, irrelevant costs can be matched against current revenues.
6. Poor buying habits—LIFO may cause poor buying habits because a company may simply purchase more goods and match the cost of these goods against revenue to insure that old costs are not charged to expense.

*CA 8-10

- (a) A LIFO pool is a group of similar items which are combined and accounted for together under the LIFO inventory method.
- (b) It is possible to use a LIFO pool concept without using dollar-value LIFO. For example, the specific goods pooled approach utilizes the concept of a LIFO pool with quantities as its measurement basis.
- (c) A LIFO liquidation occurs when a significant drop in inventory level leads to the erosion of an earlier or base inventory layer. In a period of inflation (as usually is the case) LIFO liquidation will distort net income (make it higher) and incur substantial tax payments.
- (d) Price indexes are used in the dollar-value LIFO method to: (1) convert the ending inventory at current year-end cost to base-year cost, and (2) determine the current-year cost for each inventory layer other than the base-year layer.
- (e) The dollar-value LIFO method measures the increases and decreases in a pool in terms of total dollar value, not by the physical quantity of the goods in the inventory pool. As a result, the dollar-value LIFO approach has the following advantages over specific goods LIFO pool. First, the pooled approach reduces record keeping and clerical costs. Second, replacement is permitted if it is a similar material, or similar in use, or interchangeable. Thus, it is more difficult to erode LIFO layers when using dollar-value LIFO techniques.

(a) **FIFO** (Amounts in thousands, except earnings per share)

| | 2010 | 2011 | 2012 |
|-----------------------------------|------------------------|------------------------|------------------------|
| Sales | <u>\$11,000</u> | <u>\$12,000</u> | <u>\$15,600</u> |
| Cost of goods sold | | | |
| Beginning inventory | 8,000 | 7,200 | 9,000 |
| Purchases | <u>8,000</u> | <u>9,900</u> | <u>12,000</u> |
| Cost of goods available for sale | 16,000 | 17,100 | 21,000 |
| 1. Ending inventory* | <u>(7,200)</u> | <u>(9,000)</u> | <u>(9,000)</u> |
| Cost of goods sold | <u>8,800</u> | <u>8,100</u> | <u>12,000</u> |
| Gross profit | 2,200 | 3,900 | 3,600 |
| Operating expenses (15% of sales) | (1,650) | (1,800) | (2,340) |
| Depreciation expense | <u>(300)</u> | <u>(300)</u> | <u>(300)</u> |
| Income before taxes | 250 | 1,800 | 960 |
| Income tax expense (40%) | <u>100</u> | <u>720</u> | <u>384</u> |
| 2. Net income | <u>\$ 150</u> | <u>\$ 1,080</u> | <u>\$ 576</u> |
| 3. Earnings per share | <u>\$ 0.15</u> | <u>\$ 1.08</u> | <u>\$ 0.58</u> |
| 4. Cash balance | | | |
| Beginning balance | \$ 400 | \$ 1,150 | \$ 230 |
| Sales proceeds | 11,000 | 12,000 | 15,600 |
| Purchases | (8,000) | (9,900) | (12,000) |
| Operating expenses | (1,650) | (1,800) | (2,340) |
| Property, plant, and equipment | (350) | (350) | (350) |
| Income taxes | (100) | (720) | (384) |
| Dividends | <u>(150)</u> | <u>(150)</u> | <u>(150)</u> |
| Ending balance | <u>\$ 1,150</u> | <u>\$ 230</u> | <u>\$ 606</u> |

*2010 = \$ 8 X (1,000 + 1,000 – 1,100) = \$7,200.

2011 = \$ 9 X (900 + 1,100 – 1,000) = \$9,000.

2012 = \$10 X (1,000 + 1,200 – 1,300) = \$9,000.

***CA 8-11 (Continued)**

LIFO (Amounts in thousands, except earnings per share)

| | <u>2010</u> | <u>2011</u> | <u>2012</u> |
|----------------------------------|---------------------------|---------------------------|---------------------------|
| Sales | <u>\$11,000</u> | <u>\$12,000</u> | <u>\$15,600</u> |
| Cost of goods sold | | | |
| Beginning inventory | 8,000 | 7,200 | 8,100 |
| Purchases | <u>8,000</u> | <u>9,900</u> | <u>12,000</u> |
| Cost of goods available for sale | 16,000 | 17,100 | 20,100 |
| 1. Ending inventory** | <u>(7,200)</u> | <u>(8,100)</u> | <u>(7,200)</u> |
| Cost of goods sold | <u>8,800</u> | <u>9,000</u> | <u>12,900</u> |
| Gross profit | 2,200 | 3,000 | 2,700 |
| Operating expenses | (1,650) | (1,800) | (2,340) |
| Depreciation expense | <u>(300)</u> | <u>(300)</u> | <u>(300)</u> |
| Income before taxes | 250 | 900 | 60 |
| Income tax expense | <u>100</u> | <u>360</u> | <u>24</u> |
| 2. Net income | <u>\$ 150</u> | <u>\$ 540</u> | <u>\$ 36</u> |
| 3. Earnings per share | <u>\$ 0.15</u> | <u>\$ 0.54</u> | <u>\$ 0.04</u> |
| 4. Cash balance | | | |
| Beginning balance | \$ 400 | \$ 1,150 | \$ 590 |
| Sales proceeds | 11,000 | 12,000 | 15,600 |
| Purchases | (8,000) | (9,900) | (12,000) |
| Operating expenses | (1,650) | (1,800) | (2,340) |
| Property, plant, and equipment | (350) | (350) | (350) |
| Income taxes | (100) | (360) | (24) |
| Dividends | <u>(150)</u> | <u>(150)</u> | <u>(150)</u> |
| Ending balance | <u>\$ 1,150</u> | <u>\$ 590</u> | <u>\$ 1,326</u> |

****2010 = \$8 X (1,000 + 1,000 – 1,100) = \$7,200.**

2011 = (\$8 X 900) + (\$9 X 100) = \$8,100.

2012 = \$8 X 900 = \$7,200.

***CA 8-11 (Continued)**

- (b) According to the computation in (a), Harrisburg Company can achieve the goal of income tax savings by switching to the LIFO method. As shown in the schedules, under the LIFO method, Harrisburg will have lower net income and thus lower income taxes for 2011 and 2012 (tax savings of \$360,000 in each year). As a result, Harrisburg will have a better cash position at the end of 2011 and especially 2012 (year-end cash balance will be higher by \$360,000 for 2011 and \$720,000 for 2012).**

However, since Harrisburg Company is in a period of rising purchase prices, the LIFO method will result in significantly lower net income and earnings per share for 2011 and 2012. The management may need to evaluate the potential impact that lower net income and earnings per share might have on the company before deciding on the change to the LIFO method.

FINANCIAL STATEMENT ANALYSIS CASE 1

| | | |
|-----|-------------------------------------------|----------------------|
| (a) | Sales | \$618,876,000 |
| | Cost of goods sold* | <u>476,746,000</u> |
| | Gross profit | 142,130,000 |
| | Selling and administrative expenses | <u>102,112,000</u> |
| | Income from operations..... | 40,018,000 |
| | Other expense | <u>(24,712,000)</u> |
| | Income before income tax..... | <u>\$ 15,306,000</u> |

| | |
|-----------------------------------------------|----------------------|
| *Cost of goods sold (per annual report) | \$475,476,000 |
| AC effect (\$5,263,000 – \$3,993,000)..... | <u>1,270,000</u> |
| Cost of goods sold (per average cost) | <u>\$476,746,000</u> |

(b) \$15,306,000 income before income tax X 46.6% tax = \$7,132,596 tax;
 \$15,306,000 – \$7,132,596 tax = \$8,173,404 net income as compared to
 \$8,848,000 net income under average cost. This is \$674,596 or about
 8% different. The question as to materiality is to allow the students an
 opportunity to judge the significance of the difference between the
 two costing methods. Since it is less than 10% different, some students
 may feel that it is not material. An 8% change in net income, however,
 is probably material, but this would depend on the industry and
 perhaps on the company's own past averages.

(c) No, the use of different costing methods does not necessarily mean
 that there is a difference in the physical flow of goods. As explained
 in the text, the actual physical flow need have no relationship to the
 cost flow assumption. The management of Lumber Supply International
 has determined that average cost is appropriate only for a subset of its
 products, and these reasons have to do with economic characteristics,
 rather than the physical flow of the goods.

FINANCIAL STATEMENT ANALYSIS CASE 2

- (a) The most likely physical flow of goods for a pharmaceutical manufacturer would be FIFO; that is, the first goods manufactured would be the first goods sold. This is because pharmaceutical goods have an expiration date. The manufacturer would be careful to ship the goods made earliest first and thereby reduce the risk that outdated goods will remain in the warehouse.**
- (b) Noven should consider first whether the inventory costing method will make a difference. If the prices in the economy, especially if the raw materials prices, are stable, then the inventory cost will be nearly the same under any of the measurement methods. If inventory levels are very small, then the method used will make little difference. Noven should also consider the cost of keeping records. A small company might not want to invest in complicated record keeping. The tax effects of any differences should be considered, as well as any international rules that might dictate Noven's measurement of part of its inventory.**
- (c) This amount is likely not shown in a separate inventory account because it is immaterial; that is, it is not large enough to make a difference with investors. Another possible reason is that no goods have yet been offered for sale. This amount might be in the Inventory of supplies account, but it is more likely to be included with Prepaid and other current assets, since it clearly is not just an article of supplies. This will definitely be shown separately as soon as Noven begins to sell its products to outside customers.**

*FINANCIAL STATEMENT ANALYSIS CASE 3

| | Feb. 26 2005 | Feb. 25 2006 | Feb. 24 2007 |
|----------------------------------|-----------------|-----------------|-----------------|
| Revenues..... | \$19,543 | \$19,864 | \$37,406 |
| Cost of sales..... | 16,681 | 16,977 | 29,267 |
| Ending inventories at FIFO..... | \$1,181 | \$1,114 | \$2,927 |
| Ending inventories at LIFO..... | (1,032) | (954) | (2,749) |
| LIFO reserve..... | 149 | 160 | 178 |
| Change in LIFO reserve..... | | (11) | (18) |
| FIFO adjusted cost of sales..... | | <u>\$16,966</u> | <u>\$29,249</u> |

| | | | |
|-------------------------------|--|-------|-------|
| (a) | | 2006 | 2007 |
| (i) Inventory turnover @LIFO | | 17.10 | 15.81 |
| (ii) Inventory turnover @FIFO | | 14.78 | 14.48 |

Recall that the formula for computing inventory turnover is Cost of Sales/Average Inventory

| | | | |
|-------------------------------------------------------------------------------------------------|--|-------|-------|
| (b) | | 2006 | 2007 |
| (i) Inventory turnover using sales and LIFO | | 20.00 | 20.20 |
| Recall that the formula for computing inventory turnover in part (b) is Sales/Average Inventory | | | |
| (ii) Inventory turnover using sales and FIFO | | 17.31 | 18.51 |

(c) It appears that Supervalu calculates its Inventory Turnover using LIFO inventory with the standard formula of Cost of Sales/Average Inventory.

(d) Using sales instead of cost of goods sold accounts for the mark-up in the inventory. By using cost of goods sold, there is a better matching of the costs associated with inventory, and should result in more useful information.

ACCOUNTING, ANALYSIS, AND PRINCIPLES

ACCOUNTING

(a) FIFO:

Residential pumps:

Ending inventory cost = $(300 \times \$500) + (200 \times \$475) = \$245,000$

Beginning inventory cost = $(200 \times \$400) = \$80,000$

Purchases = $\$225,000 + \$190,000 + \$150,000 = \$565,000$

Cost of goods sold = $\$80,000 + \$565,000 - \$245,000 = \$400,000$

Commercial pumps:

Ending inventory at cost = $(500 \times \$1,000) = \$500,000$

Beginning inventory at cost = $(600 \times \$800) = \$480,000$

Purchases = $\$540,000 + \$285,000 + \$500,000 = \$1,325,000$

Cost of goods sold = $\$480,000 + \$1,325,000 - \$500,000 = \$1,305,000$

Total ending inventory at cost = $\$245,000 + \$500,000 = \$745,000$

Total cost of goods sold = $\$1,305,000 + \$400,000 = \$1,705,000$

(b) Average Cost:

Residential pumps:

| <u>Date</u> | <u>No. Units</u> | <u>Unit Cost</u> | <u>Total Cost</u> |
|-------------|------------------|------------------|-------------------|
| Mar. 1 | 200 | \$400 | \$ 80,000 |
| 10 | 500 | 450 | 225,000 |
| 20 | 400 | 475 | 190,000 |
| 30 | 300 | 500 | 150,000 |
| | <u>1,400</u> | | <u>\$645,000</u> |

Average cost/unit = $\$645,000 \div 1,400 = \460.71 (rounded)

Ending inventory cost = $\$460.71 \times 500 = \$230,355$

Cost of goods sold = $\$645,000 - \$230,355 = \$414,645$

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

Commercial pumps:

| Date | No. Units | Unit Cost | Total Cost |
|--------|--------------|-----------|--------------------|
| Mar. 1 | 600 | \$800 | \$ 480,000 |
| 3 | 600 | 900 | 540,000 |
| 12 | 300 | 950 | 285,000 |
| 21 | 500 | 1,000 | 500,000 |
| | <u>2,000</u> | | <u>\$1,805,000</u> |

Average cost/unit = \$1,805,000 ÷ 2,000 = \$902.50

Ending inventory cost = \$902.50 X 500 = \$451,250

Cost of goods sold = \$1,805,000 – \$451,250 = \$1,353,750

Total ending inventory at cost = \$230,355 + \$451,250 = \$681,605

Total cost of goods sold = \$414,645 + \$1,353,750 = \$1,768,395

ANALYSIS

- (a) The purpose of a current ratio is to provide some indication of the resources the company has available to meet short term obligations, if those obligations come due. FIFO, which generally approximates the current cost of inventory, usually better suits this objective. Average cost inventory numbers on a statement of financial position can sometimes be stated at lower values.
- (b) An analyst would be better able to compare results of companies using different inventory methods by attempting to convert one of the company's inventory amounts to the other company's inventory methods. This conversion may be difficult, but the analyst should be able to determine a reasonable estimate of the "converting" company's inventory amounts.

PRINCIPLES

- (a) Companies can change from one inventory accounting method to another, but not back and forth. Changes in accounting method (when not mandated by a regulatory body such as the IASB or FASB) should be to improve the financial statement reader's ability to understand the companies financial results and position. The tradeoff is usually comparability for consistency. That is, if a company changes to a method that is used by most of its competitors, the change increases comparability. But, because the company now uses different methods across different years, consistency is sacrificed. Companies sometimes change accounting methods because they believe it improves the matching of expenses with revenues. Again, consistency across reporting periods is sacrificed, however.**
- (b) U.S. GAAP allows use of LIFO. So, if U.S. companies adopt IFRS, companies that use LIFO would have to choose between average cost, FIFO, and specific identification.**

PROFESSIONAL RESEARCH

- (a) IAS 18 Revenue provides guidance for revenue recognition when right of return exists.**
- (b) This statement is important when returns have been historically high and there has been unusual frequency after the year-end.**
- (c) Returns are allowed to satisfy customers and to encourage them to order larger quantities. Yes, industries such as publishing, music, and toys often permit purchasers to return inventory for a full or partial refund.**
- (d) A reasonable estimate of returns would be difficult to make when new markets or new products are involved.**

PROFESSIONAL SIMULATION

| | A | B | C | D | E | F | G | H | I | J |
|----|----------------------------|-------------------|------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | Unadjusted | Adjustment (a) | Adjustment (b) | Adjustment (c) | Adjusted | | | | |
| 6 | Beginning Inventory | \$125.50 | - | - | - | \$125.50 | | | | |
| 7 | Ending Inventory | 116.70 | \$2.00 | \$5.00 | \$46.00 | 169.70 | | | | |
| 8 | Average Inventory | 121.10 | - | - | - | 147.60 | | | | |
| 9 | Cost of Goods Sold | 1,776.40 | (2.00) | (5.00) | (46.00) | 1,723.40 | | | | |
| 10 | Inventory Turnover | 14.67 | - | - | - | 11.68 | | | | |
| 11 | | | | | | | | | | |
| 12 | Explanation | | Norwell should count the goods it has consigned in other stores. | Goods officially change hands at the point of destination. | Ending inventory under FIFO would be \$770 (220@3.50) -- \$46 (\$770 - \$724) higher than average cost | | | | | |
| 13 | | | | | | | | | | |

This cell contains the following function: =SUM(B5:E5)

This cell contains the following formula: =+(F4+F5)/2

This cell contains the following function: =SUM(B7:E7)

This cell contains the following formula: =+F9/F8

Explanation

To: Norwel Management

From: Student

Re: Advantages of FIFO

The major advantages of the FIFO inventory method include the prevention of income manipulation and the valuation of ending inventory close to current cost. In times of declining prices, FIFO will result in lower taxable income, which in turn will reduce current taxes. As illustrated in the analysis above the switch to FIFO resulted in a higher ending inventory, which leads to a lower cost of goods sold and higher income; thus, Norwel's reported income will be higher but so will its taxes. Note that under average cost, future taxes may be higher when lower cost items of inventory are sold in future periods and matched with higher sales prices.

CHAPTER 9

Inventories: Additional Valuation Issues

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|-------------------------------------------------------------------------------------|----------------|-----------------|----------------------------|-----------------|-----------------------|
| 1. Lower-of-cost-or-NRV. | 1, 2, 3, 4, 5 | 1, 2, 3 | 1, 2, 3, 4, 5, 6 | 1, 2, 3, 10, 11 | 1, 2, 3, 5 |
| 2. Inventory accounting changes; relative sales value method; net realizable value. | 6, 7, 8 | 4, 5, 6 | 7, 8, 9, 10 | 4 | |
| 3. Purchase commitments. | 9 | 7, 8 | 11, 12 | 10 | 6 |
| 4. Gross profit method. | 10, 11, 12, 13 | 9 | 13, 14, 15, 16, 17, 18, 19 | 5, 6 | |
| 5. Retail inventory method. | 14, 15, 16 | 10 | 20, 21, 21 | 7, 8, 9 | 4, 5 |
| 6. Presentation and analysis. | 17, 18 | 11 | 23 | 10 | |
| 7. Convergence. | 19, 20, 21 | | | | |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|-------------------------------------------------------------------------------------|-----------------|----------------------------------|--------------------|
| 1. Describe and apply the lower-of-cost-or-NRV rule. | 1, 2, 3 | 1, 2, 3, 4, 5, 6 | 1, 2, 3, 10, 11 |
| 2. Explain when companies value inventories at net realizable value. | 4, 5 | 7, 8 | 4 |
| 3. Explain when companies use the relative sales value method to value inventories. | 6 | 9, 10 | |
| 4. Discuss accounting issues related to purchase commitments. | 7, 8 | 11, 12 | 10 |
| 5. Determine ending inventory by applying the gross profit method. | 9 | 13, 14, 15, 16, 17, 18, 19 | 5, 6 |
| 6. Determine ending inventory by applying the retail inventory method. | 10 | 20, 21, 22 | 7, 8, 9 |
| 7. Explain how to report and analyze inventory. | 11 | 23 | 10 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|-------|------------------------------------|---------------------|----------------|
| E9-1 | LCNRV. | Simple | 15–20 |
| E9-2 | LCNRV. | Simple | 10–15 |
| E9-3 | LCNRV. | Simple | 15–20 |
| E9-4 | LCNRV—journal entries. | Simple | 10–15 |
| E9-5 | LCNRV—valuation account. | Moderate | 20–25 |
| E9-6 | LCNRV—error effect. | Simple | 10–15 |
| E9-7 | Valuation at net realizable value. | Simple | 10–15 |
| E9-8 | Valuation at net realizable value. | Simple | 10–15 |
| E9-9 | Relative sales value method. | Simple | 15–20 |
| E9-10 | Relative sales value method. | Simple | 12–17 |
| E9-11 | Purchase commitments. | Simple | 05–10 |
| E9-12 | Purchase commitments. | Simple | 15–20 |
| E9-13 | Gross profit method. | Simple | 8–13 |
| E9-14 | Gross profit method. | Simple | 10–15 |
| E9-15 | Gross profit method. | Simple | 15–20 |
| E9-16 | Gross profit method. | Moderate | 15–20 |
| E9-17 | Gross profit method. | Simple | 10–15 |
| E9-18 | Gross profit method. | Simple | 15–20 |
| E9-19 | Gross profit method. | Moderate | 20–25 |
| E9-20 | Retail inventory method. | Moderate | 20–25 |
| E9-21 | Retail inventory method. | Simple | 12–17 |
| E9-22 | Retail inventory method. | Simple | 20–25 |
| E9-23 | Analysis of inventories. | Simple | 10–15 |
| P9-1 | LCNRV. | Simple | 10–15 |
| P9-2 | LCNRV. | Moderate | 25–30 |
| P9-3 | LCNRV—Cost-of-goods-sold and Loss. | Moderate | 30–35 |
| P9-4 | Valuation at net realizable value. | Simple | 15–20 |
| P9-5 | Gross profit method. | Moderate | 20–30 |
| P9-6 | Gross profit method. | Complex | 40–45 |
| P9-7 | Retail inventory method. | Moderate | 20–30 |
| P9-8 | Retail inventory method. | Moderate | 20–30 |

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|-------|----------------------------------------------------------------|---------------------|----------------|
| P9-9 | Retail inventory method. | Moderate | 20–30 |
| P9-10 | Statement and note disclosure, LCNRV, and purchase commitment. | Moderate | 30–40 |
| P9-11 | LCNRV. | Moderate | 30–40 |
| CA9-1 | LCNRV. | Moderate | 15–25 |
| CA9-2 | LCNRV. | Moderate | 20–30 |
| CA9-3 | LCNRV. | Moderate | 15–20 |
| CA9-4 | Retail inventory method. | Moderate | 25–30 |
| CA9-5 | Cost determination, LCNRV, retail method. | Moderate | 15–25 |
| CA9-6 | Purchase commitments. | Moderate | 10–15 |

ANSWERS TO QUESTIONS

1. Where there is evidence that the utility of goods to be disposed of in the ordinary course of business will be less than cost, the difference should be recognized as a loss in the current period, and the inventory should be stated at net realizable value in the financial statements.
2. The usual basis for carrying forward the inventory to the next period is cost. Departure from cost is required; however, when the utility of the goods included in the inventory is less than their cost. This loss in utility should be recognized as a loss of the current period, the period in which it occurred. Furthermore, the subsequent period should be charged for goods at an amount that measures their expected contribution to that period. In other words, the subsequent period should be charged for inventory at prices no higher than those which would have been paid if the inventory had been obtained at the beginning of that period. (Historically, the lower-of-cost-or-net realizable value rule arose from the accounting convention of providing for all losses and anticipating no profits.)

In accordance with the foregoing reasoning, the rule of “cost or net realizable value, whichever is lower” may be applied to each item in the inventory, to the total of the components of each major category, or to the total of the inventory, whichever most clearly reflects operations. The rule is usually applied to each item, but if individual inventory items enter into the same category or categories of finished product, alternative procedures are suitable.

The arguments against the use of the lower-of-cost-or-net realizable value method of valuing inventories include the following:

- (a) The method requires the reporting of estimated losses (all or a portion of the excess of actual cost over net realizable value) as definite income charges even though the losses have not been sustained to date and may never be sustained. Under a consistent criterion of realization a drop in net realizable value below original cost is no more a sustained loss than a rise above cost is a realized gain.
 - (b) A price shrinkage is brought into the income statement before the loss has been sustained through sale. Furthermore, if the charge for the inventory write-downs is not made to a special loss account, the cost figure for goods actually sold is inflated by the amount of the estimated shrinkage in price of the unsold goods. The title “Cost of Goods Sold” therefore becomes a misnomer.
 - (c) The method is inconsistent in application in a given year because it recognizes the propriety of implied price reductions but gives no recognition in the accounts or financial statements to the effect of the price increases.
 - (d) The method is also inconsistent in application in one year as opposed to another because the inventory of a company may be valued at cost in one year and at net realizable value in the next year.
 - (e) The lower-of-cost-or-net realizable value method values the inventory in the statement of financial position conservatively. Its effect on the income statement, however, may be the opposite. Although the income statement for the year in which the unsustained loss is taken is stated conservatively, the net income on the income statement of the subsequent period may be distorted if the expected reductions in sales prices do not materialize.
3. The lower-of-cost-or-net realizable value rule may be applied directly to each item or to the total of the inventory (or in some cases, to the total of the components of each major category). The method should be the one that most clearly reflects income. The most common practice is to price the inventory on an item-by-item basis. Companies favor the individual item approach because tax requirements in some countries require that an individual item basis be used unless it involves practical difficulties. In addition, the individual item approach gives the most conservative valuation for balance sheet purposes.

Questions Chapter 9 (Continued)

4. (1) \$12.80.
(2) \$16.10.
(3) \$13.00.
(4) \$9.20.
(5) \$15.90.
5. One approach is to record the inventory at cost and then reduce it to net realizable value, thereby reflecting a loss in the current period (often referred to as the loss method). The loss would then be shown as a separate item in the income statement and the cost of goods sold for the year would not be distorted by its inclusion. An objection to this method of valuation is that an inconsistency is created between the income statement and balance sheet. Companies may record the adjustment either directly to the Inventory account or use the Allowance to Reduce Inventory to Market which is a contra account against inventory on the statement of financial position.

Another approach is merely to substitute market for cost when pricing the new inventory (often referred to as the cost of goods sold method). Such a procedure increases cost of goods sold by the amount of the loss and fails to reflect this loss separately. For this reason, many theoretical objections can be raised against this procedure.

6. An exception to the normal recognition rule occurs where the inventory consists of (1) agricultural assets, and (2) commodities held by broker-traders. Some minerals and minerals products may be valued at NRV.
7. (a) Biological assets are measured on initial recognition and at the end of each reporting period at fair value less costs to sell (NRV). Companies record a gain or loss due to changes in the NRV of biological assets in income when it arises.
(b) Agricultural produce (which are harvested from biological assets) are measured at fair value less costs to sell (NRV) at the point of harvest. Once harvested, the NRV of the agricultural produce becomes its cost and this asset is accounted for similar to other inventories held for sale in the normal course of business.
8. Relative sales value is an appropriate basis for pricing inventory when a group of varying units is purchased at a single lump-sum price (basket purchase). The purchase price must be allocated in some manner or on some basis among the various units. When the units vary in size, character, and attractiveness, the basis for allocation must reflect both quantitative and qualitative aspects. A suitable basis then is the relative sales value of the units that comprise the inventory.
9. The drop in the market price of the commitment should be charged to operations in the current year if it is material in amount. The following entry would be made $[(£6.20 - £5.90) \times 150,000] = £45,000$:

| | | |
|---------------------------------------------------------------------|--------|--------|
| Unrealized Holding Gain or Loss—Income (Purchase Commitments) | 45,000 | |
| Purchase Commitment Liability | | 45,000 |

The entry is made because a loss in utility has occurred during the period in which the market decline took place. The account credited in the above entry should be included among the current liabilities on the statement of financial position with an appropriate note indicating the nature and extent of the commitment. This liability indicates the minimum obligation on the commitment contract at the present time—the amount that would have to be forfeited in case of breach of contract.

10. The major uses of the gross profit method are: (1) it provides an approximation of the ending inventory which the auditor might use for testing validity of physical inventory count; (2) it means that a physical count need not be taken every month or quarter; and (3) it helps in determining damages caused by casualty when inventory cannot be counted.

Questions Chapter 9 (Continued)

11. Gross profit as a percentage of sales indicates that the margin is based on selling price rather than cost; for this reason the gross profit as a percentage of selling price will always be lower than if based on cost. Conversions are as follows:

| | |
|----------------------------|----------------------|
| 25% on cost = | 20% on selling price |
| 33 1/3% on cost = | 25% on selling price |
| 33 1/3% on selling price = | 50% on cost |
| 60% on selling price = | 150% on cost |

12. A markup of 25% on cost equals a 20% markup on selling price; therefore, gross profit equals \$1,000,000 (\$5 million X 20%) and net income equals \$250,000 [\$1,000,000 – (15% X \$5 million)].

The following formula was used to compute the 20% markup on selling price:

$$\text{Gross profit on selling price} = \frac{\text{Percentage markup on cost}}{100\% + \text{Percentage markup on cost}} = \frac{.25}{1 + .25} = 20\%$$

| | | |
|------------------------------------------------------|----------------|-------------------|
| 13. Inventory, January 1, 2011 | | \$ 400,000 |
| Purchases to February 10, 2011 | \$1,140,000 | |
| Freight-in to February 10, 2011 | <u>60,000</u> | <u>1,200,000</u> |
| Merchandise available | | 1,600,000 |
| Sales to February 10, 2011 | 1,950,000 | |
| Less gross profit at 40% | <u>780,000</u> | |
| Sales at cost | | <u>1,170,000</u> |
| Inventory (approximately) at February 10, 2011 | | <u>\$ 430,000</u> |

14. The validity of the retail inventory method is dependent upon (1) the composition of the inventory remaining approximately the same at the end of the period as it was during the period, and (2) there being approximately the same rate of markup at the end of the year as was used throughout the period.

The retail method, though ordinarily applied on a departmental basis, may be appropriate for the business as a unit if the above conditions are met.

15. The conventional retail method is a procedure based on averages whereby inventory figures at retail are reduced to an inventory valuation figure by multiplying the retail figures by a percentage which is the complement of the markup percent.

To determine the markup percent, original markups and additional net markups are related to the original cost. The complement of the markup percent is then applied to the inventory at retail after the latter has been reduced by net markdowns, thus in effect achieving a lower-of-cost-or-NRV valuation.

An example of reduction to market follows:

Assume purchase of 100 items at \$1 each, marked to sell at \$1.50 each, at which price 80 were sold. The remaining 20 are marked down to \$1.15 each.

Questions Chapter 9 (Continued)

The inventory at \$15.33 is \$4.67 below original cost and is valued at an amount which will produce the “normal” 33 1/3% gross profit if sold at the present retail price of \$23.00.

Computation of Inventory

| | Cost | Retail | Ratio |
|----------------------------------------------------------------------|--------------|--------------|---------|
| Purchases | <u>\$100</u> | \$150 | 66 2/3% |
| Sales | | (120) | |
| Markdowns (20 X \$.35) | | <u>(7)</u> | |
| Inventory at retail | | <u>\$ 23</u> | |
| Inventory at lower-of-cost-or-market \$23 X 66 2/3% = <u>\$15.33</u> | | | |

16. (a) Ending inventory:

| | Cost | Retail |
|-----------------------------------|-------------------|------------------|
| Beginning inventory | ¥ 149,000 | ¥ 283,500 |
| Purchases | 1,400,000 | 2,160,000 |
| Freight-in | <u>70,000</u> | <u>—</u> |
| Totals..... | 1,619,000 | 2,443,500 |
| Add net markups | <u>—</u> | <u>92,000</u> |
| | <u>¥1,619,000</u> | 2,535,500 |
| Deduct net markdowns..... | | <u>48,000</u> |
| | | 2,487,500 |
| Deduct sales..... | | <u>2,175,000</u> |
| Ending inventory, at retail | | <u>¥ 312,500</u> |

$$\text{Ratio of cost to selling price} = \frac{\text{¥1,619,000}}{\text{¥2,535,500}} = 64\%.$$

Ending inventory estimated at cost = 64% X ¥312,500 = ¥200,000.

- (b) The retail method, above, showed an ending inventory at retail of ¥312,500; therefore, merchandise not accounted for amounts to ¥17,500 (¥312,500 – ¥295,000) at retail and ¥11,200 (¥17,500 X .64) at cost.

17. The accounting policies adopted in measuring inventories, including the cost formula used (weighted average, FIFO); the total carrying amount of inventories and the carrying amount in classifications (common classifications of inventories are merchandise, production supplies, raw materials, work in progress and finished goods); the carrying amount of inventories carried at fair value less costs to sell; the amount of inventories recognized as an expense during the period; the amount of any write-down of inventories recognized as an expense in the period and the amount of any reversal of any write-down that is recognized as a reduction in the amount of inventories recognized as expense in the period; the circumstances or events that led to the reversal of a write-down of inventories; and the carrying amount of inventories pledged as security for liabilities, if any.

Questions Chapter 9 (Continued)

18. Inventory turnover measures how quickly inventory is sold. Generally, the higher the inventory turnover, the better the enterprise is performing. The more times the inventory turns over, the smaller the net margin can be to earn an appropriate total profit and return on assets. For example, a company can price its goods lower if it has a high inventory turnover. A company with a low profit margin, such as 2%, can earn as much as a company with a high net profit margin, such as 40%, if its inventory turnover is often enough. To illustrate, a grocery store with a 2% profit margin can earn as much as a jewelry store with a 40% profit margin and an inventory turnover of 1 if its turnover is more than 20 times.
19. **Key Similarities are** (1) the guidelines on who owns the goods—goods in transit, consigned goods, special sales agreements, and the costs to include in inventory are essentially accounted for the same under IFRS and U.S. GAAP; (2) use of specific identification cost flow assumption, where appropriate; (3) unlike property plant and equipment, IFRS does not permit the option of valuing inventories at fair value. As indicated above, IFRS requires inventory to be written down, but inventory cannot be written up above its original cost; (4) certain agricultural products and minerals and mineral products can be reported at net realizable value using IFRS.

Key differences are related to (1) the LIFO cost flow assumption—U.S. GAAP permits the use of LIFO for inventory valuation. IFRS prohibits its use. FIFO and average-cost are the only two acceptable cost flow assumptions permitted under IFRS; (2) lower-of-cost-or-market test for inventory valuation—IFRS defines market as net realizable value. U.S. GAAP on the other hand defines market as replacement cost subject to the constraints of net realizable value (the ceiling) and net realizable value less a normal markup (the floor). That is, IFRS does not use a ceiling or a floor to determine market; (3) inventory write-downs—under U.S. GAAP, if inventory is written down under the lower-of-cost-or-market valuation, the new basis is now considered its cost. As a result, the inventory may not be written back up to its original cost in a subsequent period. Under IFRS, the write-down may be reversed in a subsequent period up to the amount of the previous write-down. Both the write-down and any subsequent reversal should be reported on the income statement; (4) The requirements for accounting and reporting for inventories are more principles-based under IFRS. That is, U.S. GAAP provides more detailed guidelines in inventory accounting.

20. As shown in the analysis below, under IFRS, LaTour's inventory turnover ratio is computed as follows:

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} = \frac{€578}{€154} = 3.75 \text{ or approximately 97 days } (365 \div 3.75).$$

Difficulties in comparison to a company using U.S. GAAP could arise if the U.S. company uses the LIFO cost flow assumption, which is prohibited under IFRS. Generally in times of rising prices, LIFO results in lower inventory balance reported on the balance sheet (assume more recently purchased items are sold first). Thus, the U.S. GAAP company will report higher inventory turnover ratios. The LIFO reserve can be used to adjust the reported LIFO numbers to FIFO and to permit an “apples to apples” comparison.

Questions Chapter 9 (Continued)

21. Reed must not be aware the important convergence issue arising from the use of the LIFO cost flow assumption; IFRS specifically prohibits its use. Conversely, the LIFO cost flow assumption is widely used in the United States because of its favorable tax advantages. In addition, many argue that LIFO from a financial reporting point of view provides a better matching of current costs against revenue and therefore a more realistic income is computed.

The problem is compounded in the United States because LIFO cannot be used for tax purposes unless it is used for financial reporting purposes. As a result, unless the tax law is changed, it is unlikely that U.S. GAAP will eliminate the use of the LIFO cost flow assumption because of its substantial tax advantages for many companies.

Also, U.S. GAAP has more detailed rules related to accounting and reporting of inventories than IFRS. We expect that these more detailed rules will be used internationally because they provide practical guidance for some inventory accounting and reporting issues.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 9-1

| Item | Cost | NRV | LCNRV |
|--------|----------|----------|----------|
| Skis | \$190.00 | \$161.00 | \$161.00 |
| Boots | 106.00 | 108.00 | 106.00 |
| Parkas | 53.00 | 50.00 | 50.00 |

BRIEF EXERCISE 9-2

| (a) | Item | Cost | NRV | LCNRV |
|-----|--------------|----------------|----------------|----------------|
| | Item-by-item | | | |
| | Jokers | € 2,000 | € 2,100 | € 2,000 |
| | Penguins | 5,000 | 4,950 | 4,950 |
| | Riddlers | 4,400 | 4,625 | 4,400 |
| | Scarecrows | <u>3,200</u> | <u>3,830</u> | <u>3,200</u> |
| | Total | <u>€14,600</u> | <u>€15,505</u> | <u>€14,550</u> |

- (b) 1. Penguins only: €50
 2. None on a whole group: €15,505 > €14,600.

BRIEF EXERCISE 9-3

(a) Cost-of-goods-sold-method

| | |
|--------------------------------------------|------------|
| Cost of Goods Sold | 21,000,000 |
| Allowance to Reduce Inventory to NRV | 21,000,000 |

(b) Loss method

| | |
|-----------------------------------------------|------------|
| Loss Due to Decline of Inventory to NRV | 21,000,000 |
| Allowance to Reduce Inventory to NRV | 21,000,000 |

BRIEF EXERCISE 9-4

| | | |
|------------------------------------------------|--------|-------|
| Biological Assets – Shearing Sheep..... | 4,125* | |
| Unrealized Holding Gain or Loss – Income | | 4,125 |

*€4,700 – €575 = €4,125.

BRIEF EXERCISE 9-5

| | | |
|------------------------------------------------|--------|--------|
| Wool Inventory | 9,000 | |
| Unrealized Holding Gain or Loss – Income | | 9,000 |
| Cash | 10,500 | |
| Cost of Goods Sold..... | 9,000 | |
| Wool Inventory | | 9,000 |
| Sales | | 10,500 |

BRIEF EXERCISE 9-6

| Group | Number of CDs | Sales Price per CD | Total Sales Price | Relative Sales Price | Total Cost | Cost Allocated to CDs | Cost per CD |
|-------|------------------|--------------------------|-------------------------|----------------------------|---------------|-----------------------------|----------------|
| 1 | 100 | ¥ 5 | ¥ 500 | 5/100* | X ¥8,000 = | ¥ 400 | ¥ 4** |
| 2 | 800 | ¥10 | 8,000 | 80/100 | X ¥8,000 = | 6,400 | ¥ 8 |
| 3 | 100 | ¥15 | <u>1,500</u> | 15/100 | X ¥8,000 = | <u>1,200</u> | ¥12 |
| | | | <u>¥10,000</u> | | | <u>¥8,000</u> | |

*¥500/¥10,000 = 5/100

**¥400/100 = ¥4

BRIEF EXERCISE 9-7

| | | |
|--------------------------------------|--------|--------|
| Unrealized Holding Loss—Income | 50,000 | |
| Purchase Commitment Liability..... | | 50,000 |

BRIEF EXERCISE 9-8

| | | |
|-------------------------------------|---------|-----------|
| Purchases (Inventory) | 950,000 | |
| Purchase Commitment Liability | 50,000 | |
| Cash | | 1,000,000 |

BRIEF EXERCISE 9-9

| | | |
|--------------------------------------------------|----------------|-----------------|
| Beginning inventory | | €150,000 |
| Purchases | | <u>500,000</u> |
| Cost of goods available | | 650,000 |
| Sales | €700,000 | |
| Less gross profit (35% X €700,000) | <u>245,000</u> | |
| Estimated cost of goods sold | | <u>455,000</u> |
| Estimated ending inventory destroyed in fire ... | | <u>€195,000</u> |

BRIEF EXERCISE 9-10

| | Cost | Retail |
|----------------------------------|------------------|------------------|
| Beginning inventory | \$ 12,000 | \$ 20,000 |
| Net purchases | 120,000 | 170,000 |
| Net markups | <u>—</u> | <u>10,000</u> |
| Totals | <u>\$132,000</u> | 200,000 |
| Deduct: | | |
| Net markdowns | | 7,000 |
| Sales | | <u>147,000</u> |
| Ending inventory at retail | | <u>\$ 46,000</u> |

Cost-to-retail ratio: $\$132,000 \div \$200,000 = \underline{66\%}$

Ending inventory at LCNRV (66% X \$46,000) = \$30,360

BRIEF EXERCISE 9-11

Inventory turnover:

$$\frac{\text{€68,709.4}}{\frac{\text{€6,891} + \text{€6,867}}{2}} = 10.0 \text{ times}$$

Average days to sell inventory:

$$365 \div 10.0 = 36.5 \text{ days}$$

SOLUTIONS TO EXERCISES

EXERCISE 9-1 (15–20 minutes)

| Part No. | Quantity | Per Unit | | Total Cost | Total NRV | Lower-of-Cost-or-NRV |
|----------|----------|----------|----------|------------------|------------------|----------------------|
| | | Cost | NRV | | | |
| 110 | 600 | \$ 95 | \$100.00 | \$ 57,000 | \$ 60,000 | \$ 57,000 |
| 111 | 1,000 | 60 | 52.00 | 60,000 | 52,000 | 52,000 |
| 112 | 500 | 80 | 76.00 | 40,000 | 38,000 | 38,000 |
| 113 | 200 | 170 | 180.00 | 34,000 | 36,000 | 34,000 |
| 120 | 400 | 205 | 208.00 | 82,000 | 83,200 | 82,000 |
| 121 | 1,600 | 16 | 1.00 | 25,600 | 1,600 | 1,600 |
| 122 | 300 | 240 | 235.00 | 72,000 | 70,500 | 70,500 |
| Totals | | | | <u>\$370,600</u> | <u>\$341,300</u> | <u>\$335,100</u> |

(a) \$335,100.

(b) \$341,300.

EXERCISE 9-2 (10–15 minutes)

| Item | Net Realizable Value | Cost | LCNRV |
|------|----------------------|------|-------|
| D | €80* | €75 | €75 |
| E | 62 | 80 | 62 |
| F | 60 | 80 | 60 |
| G | 35 | 80 | 35 |
| H | 70 | 50 | 50 |
| I | 40 | 36 | 36 |

*Estimated selling price – Estimated selling costs and cost to complete = €120 – €30 – €10 = €80.

EXERCISE 9-3 (15–20 minutes)

| Item No. | Cost per Unit | Net Realizable Value | LCNRV | Quantity | Final Inventory Value |
|----------|---------------|----------------------|--------|----------|-----------------------|
| 1320 | \$3.20 | \$2.90* | \$2.90 | 1,200 | \$ 3,480 |
| 1333 | 2.70 | 2.40 | 2.40 | 900 | 2,160 |
| 1426 | 4.50 | 3.60 | 3.60 | 800 | 2,880 |
| 1437 | 3.60 | 1.85 | 1.85 | 1,000 | 1,850 |
| 1510 | 2.25 | 1.85 | 1.85 | 700 | 1,295 |
| 1522 | 3.00 | 3.10 | 3.00 | 500 | 1,500 |
| 1573 | 1.80 | 1.30 | 1.30 | 3,000 | 3,900 |
| 1626 | 4.70 | 4.50 | 4.50 | 1,000 | 4,500 |
| | | | | | <u>\$21,565</u> |

*\$4.50 – \$1.60 = \$2.90.

EXERCISE 9-4 (10–15 minutes)

| | | | | |
|-----|----------|--------------------------------------------------|--------|--------|
| (a) | 12/31/10 | Cost of Goods Sold | 24,000 | |
| | | Allowance to Reduce Inventory to NRV | | 24,000 |
| | 12/31/11 | Allowance to Reduce Inventory to NRV | 4,000 | |
| | | Cost of Goods Sold..... | | 4,000 |
| | | | | |
| (b) | 12/31/10 | Loss Due to Decline of Inventory to NRV | 24,000 | |
| | | Allowance to Reduce Inventory to NRV | | 24,000 |
| | 12/31/11 | Allowance to Reduce Inventory to NRV | 4,000* | |
| | | Recovery of Inventory Loss | | 4,000 |
| | | | | |

EXERCISE 9-4 (Continued)

| | |
|-----------------------------------------------------------------|---------------------|
| *Cost of inventory at 12/31/10 | £346,000 |
| LCNRV at 12/31/10 | <u>(322,000)</u> |
| Allowance amount needed to reduce inventory to NRV (a) | <u>£ 24,000</u> |
| Cost of inventory at 12/31/11 | £410,000 |
| LCNRV at 12/31/11 | <u>(390,000)</u> |
| Allowance amount needed to reduce inventory to NRV (b) | <u>£ 20,000</u> |
| Recovery of previously recognized loss = (a) – (b) | |
| | = £24,000 – £20,000 |
| | = £4,000. |

- (c) Both methods of recording lower-of-cost-or-NRV adjustments have the same effect on net income.

EXERCISE 9-5 (20–25 minutes)

| (a) | February | March | April |
|---------------------------------------------------------|-----------------|-----------------|-----------------|
| Sales | <u>\$29,000</u> | <u>\$35,000</u> | <u>\$40,000</u> |
| Cost of goods sold | | | |
| Inventory, beginning | 15,000 | 15,100 | 17,000 |
| Purchases | <u>17,000</u> | <u>24,000</u> | <u>26,500</u> |
| Cost of goods available | 32,000 | 39,100 | 43,500 |
| Inventory, ending | <u>15,100</u> | <u>17,000</u> | <u>14,000</u> |
| Cost of goods sold | <u>16,900</u> | <u>22,100</u> | <u>29,500</u> |
| Gross profit | 12,100 | 12,900 | 10,500 |
| Gain (loss) due to market fluctuations of inventory* | <u>(2,000)</u> | <u>1,100</u> | <u>700</u> |
| | <u>\$10,100</u> | <u>\$14,000</u> | <u>\$11,200</u> |

EXERCISE 9-5 (Continued)

| * | <u>Jan. 31</u> | <u>Feb. 28</u> | <u>Mar. 31</u> | <u>Apr. 30</u> |
|----------------------------------------------------------|-----------------|-------------------|-----------------|-----------------|
| Inventory at cost | \$15,000 | \$15,100 | \$17,000 | \$14,000 |
| Inventory at LCNRV | <u>(14,500)</u> | <u>(12,600)</u> | <u>(15,600)</u> | <u>(13,300)</u> |
| Allowance amount needed to reduce inventory to NRV | <u>\$ 500</u> | <u>\$ 2,500</u> | <u>\$ 1,400</u> | <u>\$ 700</u> |
| Gain (loss) due to market fluctuations of inventory** | | <u>\$ (2,000)</u> | <u>\$ 1,100</u> | <u>\$ 700</u> |

**\$500 – \$2,500 = \$(2,000)

\$2,500 – \$1,400 = \$1,100

\$1,400 – \$700 = \$700

| | | | | |
|-----|---------|-----------------------------------------------|-------|-------|
| (b) | Jan. 31 | Loss Due to Decline of Inventory to NRV..... | 500 | |
| | | Allowance to Reduce Inventory to NRV | | 500 |
| | Feb. 28 | Loss Due to Decline of Inventory to NRV..... | 2,000 | |
| | | Allowance to Reduce Inventory to NRV | | 2,000 |
| | Mar. 31 | Allowance to Reduce Inventory to NRV..... | 1,100 | |
| | | Recovery of Inventory Loss | | 1,100 |
| | Apr. 30 | Allowance to Reduce Inventory to NRV..... | 700 | |
| | | Recovery of Inventory Loss | | 700 |

EXERCISE 9-6 (10–15 minutes)

| | |
|-----------------------------------------|-----------------|
| Net realizable value | €50 – €14 = €36 |
| Net realizable value less normal profit | €36 – € 9 = €27 |
| Cost | €40 |
| Lower-of-cost-or-NRV | €36 |

€38 figure used – €36 correct value per unit = €2 per unit.

€2 X 1,000 units = €2,000.

If ending inventory is overstated, net income will be overstated.

If beginning inventory is overstated, net income will be understated.

Therefore, net income for 2010 was overstated by €2,000 and net income for 2011 was understated by €2,000.

EXERCISE 9-7 (10–15 minutes)

| | | | |
|-----|------------------------------------------------|---------|---------|
| (a) | Unrealized Holding Gain or Loss – Income | 212,000 | |
| | Biological Assets – Milking Cows | | 212,000 |
| (b) | Milk Inventory | 72,000 | |
| | Unrealized Holding Gain or Loss – Income | | 72,000 |
| (c) | Cash | 74,000 | |
| | Cost of Goods Sold | 72,000 | |
| | Milk Inventory | | 72,000 |
| | Sales | | 74,000 |

EXERCISE 9-8 (10–15 minutes)

| | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--|---------------|---------------|
| (a) Biological Assets – Shearing Alpaca | | | 6,725 | |
| | Unrealized Holding Gain or Loss – Income | | | 6,725 |
| (b) Wool Inventory | | | 13,000 | |
| | Unrealized Holding Gain or Loss – Income | | | 13,000 |
| (c) Cash..... | | | 14,500 | |
| | Cost of Goods Sold | | 13,000 | |
| | Wool Inventory..... | | | 13,000 |
| | Sales..... | | | 14,500 |
| (d) (1) The birth of a baby Alpaca may result in a gain on the initial recognition of the biological asset. | | | | |
| (2) Losses may result as the fair value of the older Alpaca will likely decrease because the shearing is more limited than with the other Alpacas. | | | | |

EXERCISE 9-9 (15–20 minutes)

| | No. of Lots | Sales Price Per Lot | Total Sales Price | Relative Sales Price | Total Cost | Cost Allocated to Lots | Cost Per Lot (Cost Allocated/ No. of Lots) |
|-----------------------------------|-------------|---------------------|-------------------|----------------------|------------|------------------------|--------------------------------------------|
| Group 1 | 9 | \$3,000 | \$ 27,000 | \$27,000/\$125,000 | X 85,000 | \$18,360 | \$2,040 |
| Group 2 | 15 | 4,000 | 60,000 | \$60,000/\$125,000 | X 85,000 | 40,800 | 2,720 |
| Group 3 | 19 | 2,000 | <u>38,000</u> | \$38,000/\$125,000 | X 85,000 | <u>25,840</u> | 1,360 |
| | | | <u>\$125,000</u> | | | <u>\$85,000</u> | |
| Sales (see schedule) | | | | \$78,000 | | | |
| Cost of goods sold (see schedule) | | | | <u>53,040</u> | | | |
| Gross profit | | | | 24,960 | | | |
| Operating expenses | | | | <u>18,200</u> | | | |
| Net income | | | | <u>\$ 6,760</u> | | | |

| | Number of Lots Sold* | Cost Per Lot | Cost of Lots Sold | Sales | Gross Profit |
|---------|----------------------|--------------|-------------------|-----------------|-----------------|
| Group 1 | 4 | \$2,040 | \$ 8,160 | \$12,000 | \$ 3,840 |
| Group 2 | 8 | 2,720 | 21,760 | 32,000 | 10,240 |
| Group 3 | <u>17</u> | <u>1,360</u> | <u>23,120</u> | <u>34,000</u> | <u>10,880</u> |
| Total | <u>29</u> | | <u>\$53,040</u> | <u>\$78,000</u> | <u>\$24,960</u> |

* 9 – 5 = 4

15 – 7 = 8

19 – 2 = 17

EXERCISE 9-10 (12–17 minutes)

| Chairs | No. of Chairs | Sales Price per Chair | Total Sales Price | Relative Sales Price | Total Cost | Cost Allocated to Chairs | Cost per Chair |
|-----------------|------------------|-----------------------------|-------------------------|-------------------------|---------------|--------------------------------|-------------------|
| Lounge chairs | 400 | £90 | £36,000 | £36,000/£100,000 X | £60,000 | £21,600 | £54 |
| Armchairs | 300 | 80 | 24,000 | £24,000/£100,000 X | 60,000 | 14,400 | 48 |
| Straight chairs | 800 | 50 | <u>40,000</u> | £40,000/£100,000 X | 60,000 | <u>24,000</u> | 30 |
| | | | <u>£100,000</u> | | | <u>£60,000</u> | |

| Chairs | Number of Chairs Sold | Cost per Chair | Cost of Chairs Sold | Sales | Gross Profit |
|-----------------|-----------------------------|----------------------|---------------------------|----------------|-----------------|
| Lounge chairs | 200 | £54 | £10,800 | £18,000 | £ 7,200 |
| Armchairs | 100 | 48 | 4,800 | 8,000 | 3,200 |
| Straight chairs | 120 | 30 | <u>3,600</u> | <u>6,000</u> | <u>2,400</u> |
| | | | <u>£19,200</u> | <u>£32,000</u> | <u>£12,800</u> |

Inventory of straight chairs
(800 – 120) X £30 = £20,400

EXERCISE 9-11 (5–10 minutes)

| | | |
|----------------------------------------------|--------|--------|
| Unrealized Holding Gain or Loss—Income | 25,000 | |
| Purchase Commitment Liability | | 25,000 |

EXERCISE 9-12 (15–20 minutes)

- (a) If the commitment is material in amount, there should be a footnote in the balance sheet stating the nature and extent of the commitment. The footnote may also disclose the market price of the materials. The excess of market price over contracted price is a gain contingency that should not be recognized in the accounts until it is realized.
- (b) The drop in the market price of the commitment should be charged to operations in the current year if it is material in amount. The following entry would be made:

| | | |
|----------------------------------------------|--------|--------|
| Unrealized Holding Gain or Loss—Income | 12,000 | |
| Purchase Commitment Liability | | 12,000 |

The entry is made because a loss in utility has occurred during the period in which the market decline took place. The account credited in the above entry should be included among the current liabilities on the statement of financial position, with an appropriate footnote indicating the nature and extent of the commitment. This liability indicates the minimum obligation on the commitment contract at the present time—the amount that would have to be forfeited in case of breach of contract.

- (c) Assuming the \$12,000 market decline entry was made on December 31, 2011, as indicated in (b), the entry when the materials are received in January 2012 would be:

| | | |
|-------------------------------------|---------|---------|
| Raw Materials | 108,000 | |
| Purchase Commitment Liability | 12,000 | |
| Accounts Payable | | 120,000 |

EXERCISE 9-12 (Continued)

This entry debits the raw materials at the current cost, eliminates the \$12,000 liability set up at December 31, 2011, and records the contractual liability for the purchase. This permits operations to be charged this year with the \$108,000, the other \$12,000 of the cost having been charged to operations in 2011.

EXERCISE 9-13 (8–13 minutes)

$$(1) \frac{20\%}{100\% + 20\%} = 16.67\% \text{ OR } 16 \frac{2}{3}\%.$$

$$(2) \frac{25\%}{100\% + 25\%} = 20\%.$$

$$(3) \frac{33 \frac{1}{3}\%}{100\% + 33 \frac{1}{3}\%} = 25\%.$$

$$(4) \frac{50\%}{100\% + 50\%} = 33.33\% \text{ OR } 33 \frac{1}{3}\%.$$

EXERCISE 9-14 (10–15 minutes)

| | | |
|-----|--------------------------------------------|-----------------|
| (a) | Inventory, May 1 (at cost) | €160,000 |
| | Purchases (at cost) | 640,000 |
| | Purchase discounts | (12,000) |
| | Freight-in | <u>30,000</u> |
| | Goods available (at cost) | 818,000 |
| | Sales (at selling price) | €1,000,000 |
| | Sales returns (at selling price) | <u>(70,000)</u> |
| | Net sales (at selling price) | 930,000 |
| | Less: Gross profit (25% of €930,000) | <u>232,500</u> |
| | Sales (at cost) | <u>697,500</u> |
| | Approximate inventory, | |
| | May 31 (at cost) | <u>€120,500</u> |

EXERCISE 9-14 (Continued)

(b) Gross profit as a percent of sales must be computed:

$$\frac{25\%}{100\% + 25\%} = 20\% \text{ of sales.}$$

| | | |
|--------------------------------------------------|-----------------|-----------------|
| Inventory, May 1 (at cost) | | €160,000 |
| Purchases (at cost)..... | | 640,000 |
| Purchase discounts | | (12,000) |
| Freight-in..... | | <u>30,000</u> |
| Goods available (at cost) | | 818,000 |
| Sales (at selling price) | €1,000,000 | |
| Sales returns (at selling price)..... | <u>(70,000)</u> | |
| Net sales (at selling price)..... | 930,000 | |
| Less: Gross profit (20% of €930,000) | <u>186,000</u> | |
| Sales (at cost)..... | | <u>744,000</u> |
| Approximate inventory, May 31 (at cost) | | <u>€ 74,000</u> |

EXERCISE 9-15 (15–20 minutes)

| | |
|--------------------------------------------|------------------|
| (a) Merchandise on hand, January 1..... | \$ 38,000 |
| Purchases..... | 92,000 |
| Less: Purchase returns and allowances..... | (2,400) |
| Freight-in..... | <u>3,400</u> |
| Total merchandise available (at cost)..... | 131,000 |
| Cost of goods sold*..... | <u>(90,000)</u> |
| Ending inventory | 41,000 |
| Less: Undamaged goods | <u>10,900</u> |
| Estimated fire loss | <u>\$ 30,100</u> |

$$\text{*Gross profit} = \frac{33 \frac{1}{3}\%}{100\% + 33 \frac{1}{3}\%} = 25\% \text{ of sales.}$$

$$\text{Cost of goods sold} = 75\% \text{ of sales of } \$120,000 = \$90,000.$$

EXERCISE 9-15 (Continued)

(b) Cost of goods sold = $66\frac{2}{3}\%$ of sales of \$120,000 = \$80,000

| | |
|---------------------------------------------|-----------------|
| Total merchandise available (at cost)..... | \$51,000 |
| [\$131,000 [as computed in (a)] – \$80,000] | |
| Less: Undamaged goods..... | <u>10,900</u> |
| Estimated fire loss | <u>\$40,100</u> |

EXERCISE 9-16 (15–20 minutes)

| | | |
|----------------------------------------------------------------------|------------------|------------------|
| Beginning inventory | | \$170,000 |
| Purchases | | <u>450,000</u> |
| | | 620,000 |
| Purchase returns | | <u>(30,000)</u> |
| Goods available (at cost) | | 590,000 |
| Sales | \$650,000 | |
| Sales returns | <u>(24,000)</u> | |
| Net sales | 626,000 | |
| Less: Gross profit (30% X \$626,000)..... | <u>(187,800)</u> | <u>438,200</u> |
| Estimated ending inventory (unadjusted for damage)..... | | 151,800 |
| Less: Goods on hand—undamaged (at cost) \$21,000 X (1 – 30%)..... | | 14,700 |
| Less: Goods on hand—damaged (at net realizable value)..... | | <u>5,300</u> |
| Fire loss on inventory | | <u>\$131,800</u> |

EXERCISE 9-17 (10–15 minutes)

| | | |
|----------------------------------------------|---------------|-----------------|
| Beginning inventory (at cost) | | ¥ 38,000 |
| Purchases (at cost)..... | | <u>90,000</u> |
| Goods available (at cost)..... | | 128,000 |
| Sales (at selling price) | ¥116,000 | |
| Less sales returns | <u>4,000</u> | |
| Net sales..... | 112,000 | |
| Less: Gross profit* (20% of ¥112,000)..... | <u>22,400</u> | |
| Net sales (at cost)..... | | <u>89,600</u> |
| Estimated inventory (at cost)..... | | 38,400 |
| Less: Goods on hand (¥30,500 – ¥6,000) | | <u>24,500</u> |
| Claim against insurance company..... | | <u>¥ 13,900</u> |

*Computation of gross profit: $\frac{25\%}{100\% + 25\%} = 20\%$ of selling price

EXERCISE 9-18 (15–20 minutes)

| | <u>Lumber</u> | <u>Millwork</u> | <u>Hardware</u> |
|-----------------------------|-------------------|------------------|------------------|
| Inventory 1/1/11 (cost) | \$ 250,000 | \$ 90,000 | \$ 45,000 |
| Purchases to 8/18/11 (cost) | <u>1,500,000</u> | <u>375,000</u> | <u>160,000</u> |
| Cost of goods available | 1,750,000 | 465,000 | 205,000 |
| Deduct cost of goods sold* | <u>1,640,000</u> | <u>410,000</u> | <u>175,000</u> |
| Inventory 8/18/11 | <u>\$ 110,000</u> | <u>\$ 55,000</u> | <u>\$ 30,000</u> |

*(See computations on next page)

EXERCISE 9-18 (Continued)

Computation for cost of goods sold:*

$$\text{Lumber: } \frac{\$2,050,000}{1.25} = \$1,640,000$$

$$\text{Millwork: } \frac{\$533,000}{1.30} = \$410,000$$

$$\text{Hardware: } \frac{\$245,000}{1.40} = \$175,000$$

*Alternative computation for cost of goods sold:

Markup on selling price:

$$\text{Lumber: } \frac{25\%}{100\% + 25\%} = 20\% \text{ or } 1/5$$

$$\text{Millwork: } \frac{30\%}{100\% + 30\%} = 3/13$$

$$\text{Hardware: } \frac{40\%}{100\% + 40\%} = 2/7$$

Cost of goods sold:

$$\$2,050,000 \times 80\% = \$1,640,000$$

$$\$533,000 \times 10/13 = \$410,000$$

$$\$245,000 \times 5/7 = \$175,000$$

EXERCISE 9-19 (20–25 minutes)

Ending inventory:

(a) Gross profit is 40% of sales

| | | |
|-----------------------------------------------|----------------|------------------|
| Total goods available for sale (at cost)..... | | £2,100,000 |
| Sales (at selling price) | £2,300,000 | |
| Less: Gross profit (40% of sales) | <u>920,000</u> | |
| Sales (at cost)..... | | <u>1,380,000</u> |
| Ending inventory (at cost)..... | | <u>£ 720,000</u> |

(b) Gross profit is 60% of cost

$$\frac{60\%}{100\% + 60\%} = 37.5\% \text{ markup on selling price}$$

| | | |
|-----------------------------------------------|----------------|------------------|
| Total goods available for sale (at cost)..... | | £2,100,000 |
| Sales (at selling price) | £2,300,000 | |
| Less: Gross profit (37.5% of sales)..... | <u>862,500</u> | |
| Sales (at cost)..... | | <u>1,437,500</u> |
| Ending inventory (at cost)..... | | <u>£ 662,500</u> |

(c) Gross profit is 35% of sales

| | | |
|-----------------------------------------------|----------------|------------------|
| Total goods available for sale (at cost)..... | | £2,100,000 |
| Sales (at selling price) | £2,300,000 | |
| Less: Gross profit (35% of sales) | <u>805,000</u> | |
| Sales (at cost)..... | | <u>1,495,000</u> |
| Ending inventory (at cost)..... | | <u>£ 605,000</u> |

EXERCISE 9-19 (Continued)

(d) Gross profit is 25% of cost

$$\frac{25\%}{100\% + 25\%} = 20\% \text{ markup on selling price}$$

| | | |
|------------------------------------------------|----------------|------------------|
| Total goods available for sale (at cost) | | £2,100,000 |
| Sales (at selling price) | £2,300,000 | |
| Less: Gross profit (20% of sales) | <u>460,000</u> | |
| Sales (at cost) | | <u>1,840,000</u> |
| Ending inventory (at cost) | | <u>£ 260,000</u> |

EXERCISE 9-20 (20–25 minutes)

| (a) | Cost | Retail |
|--------------------------------------|------------------|------------------|
| Beginning inventory | \$ 58,000 | \$100,000 |
| Purchases | 122,000 | 200,000 |
| Net markups | <u>—</u> | <u>20,000</u> |
| Totals | <u>\$180,000</u> | 320,000 |
| Net markdowns | | <u>(30,000)</u> |
| Sales price of goods available | | 290,000 |
| Deduct: Sales | | <u>186,000</u> |
| Ending inventory at retail | | <u>\$104,000</u> |

- (b)
1. $\$180,000 \div \$300,000 = \underline{60\%}$
 2. $\$180,000 \div \$270,000 = \underline{66.67\%}$
 3. $\$180,000 \div \$320,000 = \underline{56.25\%}$
 4. $\$180,000 \div \$290,000 = \underline{62.07\%}$

EXERCISE 9-20 (Continued)

- (c) 1. Method 3.
2. Method 3.
3. Method 3.

(d) $56.25\% \times \$104,000 = \underline{\$58,500}$

(e) $\$180,000 - \$58,500 = \underline{\$121,500}$

(f) $\$186,000 - \$121,500 = \underline{\$64,500}$

EXERCISE 9-21 (12–17 minutes)

| | Cost | Retail |
|-------------------------------------|-------------------|------------------|
| Beginning inventory..... | € 200,000 | € 280,000 |
| Purchases..... | <u>1,425,000</u> | <u>2,140,000</u> |
| Totals..... | 1,625,000 | 2,420,000 |
| Add: Net markups | | |
| Markups..... | | €95,000 |
| Markup cancellations..... | | <u>(15,000)</u> |
| Totals..... | <u>€1,625,000</u> | 2,500,000 |
| Deduct: Net markdowns | | |
| Markdowns | | 35,000 |
| Markdown cancellations | | <u>(5,000)</u> |
| Sales price of goods available..... | | 2,470,000 |
| Deduct: Sales | | <u>2,250,000</u> |
| Ending inventory at retail | | <u>€ 220,000</u> |

$$\text{Cost-to-retail ratio} = \frac{\text{€1,625,000}}{\text{€2,500,000}} = 65\%$$

$$\text{Ending inventory at cost} = 65\% \times \text{€220,000} = \underline{\text{€143,000}}$$

EXERCISE 9-22 (20–25 minutes)

| | <u>Cost</u> | <u>Retail</u> |
|---------------------------------------------|-----------------|------------------|
| Beginning inventory | \$30,000 | \$ 46,500 |
| Purchases | 55,000 | 88,000 |
| Purchase returns | (2,000) | (3,000) |
| Freight on purchases | <u>2,400</u> | |
| Totals | 85,400 | 131,500 |
| Add: Net markups | | |
| Markups | \$10,000 | |
| Markup cancellations | <u>(1,500)</u> | |
| Net markups | | <u>8,500</u> |
| Totals | <u>\$85,400</u> | 140,000 |
| Deduct: Net markdowns | | |
| Markdowns..... | 9,300 | |
| Markdown cancellations..... | <u>(2,800)</u> | |
| Net markdowns | | <u>6,500</u> |
| Sales price of goods available | | 133,500 |
| Deduct: Net sales (\$95,000 – \$2,000)..... | | <u>93,000</u> |
| Ending inventory, at retail | | <u>\$ 40,500</u> |

$$\text{Cost-to-retail ratio} = \frac{\$85,400}{\$140,000} = 61\%$$

$$\text{Ending inventory at cost} = 61\% \times \$40,500 = \underline{\underline{\$24,705}}$$

EXERCISE 9-23 (10–15 minutes)

(a) Inventory turnover:

| 2008 | 2007 |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------|
| $\frac{\text{€7,122}}{\text{€1,119} + \text{€2,086}} = 4.44 \text{ times}$ | $\frac{\text{€5,936}}{\text{€1,017} + \text{€1,119}} = 5.56 \text{ times}$ |
| 2 | 2 |

(b) Average days to sell inventory:

| 2008 | 2007 |
|-------------------------------------|-------------------------------------|
| $365 \div 4.44 = 82.2 \text{ days}$ | $365 \div 5.56 = 65.6 \text{ days}$ |

TIME AND PURPOSE OF PROBLEMS

Problem 9-1 (Time 10–15 minutes)

Purpose—to provide the student with an understanding of the lower-of-cost-or-net realizable value approach to inventory valuation, similar to Problem 9-2. The major difference between these problems is that Problem 9-1 provides some ambiguity to the situation by changing the catalog prices near the end of the year.

Problem 9-2 (Time 25–30 minutes)

Purpose—to provide the student with an understanding of the lower-of-cost-or-net realizable value approach to inventory valuation. The student is required to examine a number of individual items and apply the lower-of-cost-or-net realizable value rule and to also explain the use and value of the lower-of-cost-or-net realizable value rule.

Problem 9-3 (Time 30–35 minutes)

Purpose—to provide a problem that requires entries for reducing inventory to lower-of-cost-or-net realizable value under the perpetual inventory system using both the cost of goods sold and the loss method.

Problem 9-4 (Time 15-20 minutes)

Purpose—to provide a problem that requires entries for recording the unrealized gains and losses on biological assets and harvested assets.

Problem 9-5 (Time 20–30 minutes)

Purpose—to provide another problem where a fire loss must be computed using the gross profit method. Certain goods remained undamaged and therefore an adjustment is necessary. In addition, the inventory was subject to an obsolescence factor which must be considered.

Problem 9-6 (Time 40–45 minutes)

Purpose—to provide the student with a complex problem involving a fire loss where the gross profit method must be employed. The problem is complicated because a number of adjustments must be made to the purchases account related to merchandise returned, unrecorded purchases, and shipments in transit. In addition, some cash to accrual computations are necessary.

Problem 9-7 (Time 20–30 minutes)

Purpose—to provide the student with a problem on the retail inventory method. The problem is relatively straightforward although transfers-in from other departments as well as the proper treatment for normal spoilage complicate the problem. A good problem that summarizes the essentials of the retail inventory method.

Problem 9-8 (Time 20–30 minutes)

Purpose—to provide the student with a problem on the retail inventory method. This problem is similar to Problem 9-7, except that a few different items must be evaluated in finding ending inventory at retail and cost. Unusual items in this problem are employee discounts granted and loss from breakage. A good problem that summarizes the essentials of the retail inventory method.

Problem 9-9 (Time 20–30 minutes)

Purpose—to provide the student with a problem on the retail inventory method. This problem is similar to Problems 9-7 and 9-8, except that the student is asked to list the factors that may have caused the difference between the computed inventory and the physical count.

Time and Purpose of Problems (Continued)

Problem 9-10 (Time 30–40 minutes)

Purpose—to provide the student with a problem requiring financial statement and note disclosure of inventories, the income statement disclosure of an inventory market decline, and the treatment of purchase commitments.

Problem 9-11 (Time 30–40 minutes)

Purpose—to provide the student with an opportunity to write a memo explaining what is net realizable value and how it is computed. As part of this memo, the student is required to compute inventory on the lower-of-cost-or-net realizable value basis using the individual item approach.

SOLUTIONS TO PROBLEMS

PROBLEM 9-1

| Item | Cost | Net Realizable Value* | Lower-of- Cost-or- NRV |
|------|-------|-----------------------------|------------------------------|
| A | \$470 | \$ 450 | \$450 |
| B | 450 | 430 | 430 |
| C | 830 | 640 | 640 |
| D | 960 | 1,000 | 960 |

***Net Realizable Value = 2011 catalog selling price less estimated costs to complete and sell. (2011 catalog prices are in effect as of 12/01/10.)**

| |
|--------------------|
| PROBLEM 9-2 |
|--------------------|

- (a) 1. The balance in the Allowance to Reduce Inventory to NRV at May 31, 2010, should be \$15,200, as calculated in Exhibit 1 below.

| | <u>Cost</u> | <u>NRV</u> | <u>LCNRV</u> |
|----------------------|------------------|------------------|------------------|
| Aluminum siding | \$ 70,000 | \$ 56,000 | \$ 56,000 |
| Cedar shake siding | 86,000 | 84,800 | 84,800 |
| Louvered glass doors | 112,000 | 168,300 | 112,000 |
| Thermal windows | <u>140,000</u> | <u>140,000</u> | <u>140,000</u> |
| Totals | <u>\$408,000</u> | <u>\$449,100</u> | <u>\$392,800</u> |

| | |
|---------------------------|------------------|
| Inventory cost | \$408,000 |
| LCNRV valuation | <u>392,800</u> |
| Allowance at May 31, 2010 | <u>\$ 15,200</u> |

2. For the fiscal year ended May 31, 2010, the gain that would be recorded due to the change in the Allowance to Reduce Inventory to Net Realizable Value would be \$12,300, as calculated below.

| | |
|----------------------------------|-------------------|
| Balance prior to adjustment..... | \$27,500 |
| Required balance | <u>(15,200)</u> |
| Gain to be recorded | <u>\$(12,300)</u> |

PROBLEM 9-2 (Continued)

- (b) The use of the lower-of-cost-or-net realizable value (LCNRV) rule is based on both the expense recognition principle and the concept of conservatism. The expense recognition principle applies because the application of the LCNRV rule allows for the recognition of a decline in the utility (value) of inventory as a loss in the period in which the decline takes place.

The departure from the cost principle for inventory valuation is permitted on the basis of conservatism. The general rule is that the historical cost principle is abandoned when the future utility of an asset is no longer as great as its original cost.

| |
|--------------------|
| PROBLEM 9-3 |
|--------------------|

| | | | |
|-----|--------------------------------------------------|--------|--------|
| (a) | 12/31/10 (Cost of Goods Sold Method) | | |
| | Cost of Goods Sold..... | 68,000 | |
| | Allowance to Reduce Inventory to NRV | | 68,000 |
| | 12/31/11 | | |
| | Cost of Goods Sold..... | 7,000 | |
| | Allowance to Reduce Inventory to NRV | | |
| | [(\$905,000 – \$830,000) – \$68,000] | | 7,000 |
| (b) | 12/31/10 (Loss Method) | | |
| | To write down inventory to net realizable value: | | |
| | Loss Due to Decline of Inventory to NRV | 68,000 | |
| | Allowance to Reduce Inventory to NRV | | 68,000 |
| | 12/31/11 | | |
| | To write down inventory to net realizable value: | | |
| | Loss Due to Decline of Inventory to NRV | 7,000 | |
| | Allowance to Reduce Inventory to NRV | | |
| | [(\$905,000 – \$830,000) – \$68,000] | | 7,000 |

| |
|--------------------|
| PROBLEM 9-4 |
|--------------------|

| | | | |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------|
| (a) | Biological Assets—Grape Vineyard..... | 15,000 | |
| | Unrealized Holding Gain or Loss – Income..... | | 15,000 |
| (b) | Grape Inventory | 30,000 | |
| | Unrealized Holding Gain or Loss – Income..... | | 30,000 |
| (c) | Cash | 35,000 | |
| | Cost of Goods Sold | 30,000 | |
| | Grape Inventory | | 30,000 |
| | Sales | | 35,000 |
| (d) | Unrealized Holding Gain or Loss – Income | | €15,000 |
| | Unrealized Holding Gain or Loss – Income | | 30,000 |
| | Gross Profit on Sold Grapes | | 5,000 |
| | Total Effect on Income..... | | <u>€50,000</u> |
| (e) | <p>The increase in demand for the type of grapes Finn produces should increase the sales prices received for the grapes, increase the value of the harvested grapes since the value is based on the current commodity price, and increase the potential that the full harvest will be sold. The new producing vineyards coming on line next year will have negative effects on both the value of any increase in the grape vineyard (biological asset) and the value of the harvested grapes. The new vineyards may also increase supply and decrease prices as a result.</p> | | |

| |
|--------------------|
| PROBLEM 9-5 |
|--------------------|

| | | |
|------------------------------------------------|-----------------|------------------------|
| Beginning inventory | | ¥ 80,000 |
| Purchases | | <u>290,000</u> |
| | | 370,000 |
| Purchase returns | | <u>(28,000)</u> |
| Total goods available | | 342,000 |
| Sales | ¥415,000 | |
| Sales returns | <u>(21,000)</u> | |
| | 394,000 | |
| Less: Gross profit (35% of ¥394,000)..... | <u>137,900</u> | <u>(256,100)</u> |
| Ending inventory (unadjusted for damage)..... | | 85,900 |
| Less: Goods on hand—undamaged | | |
| (¥30,000 X [1 – 35%]) | | <u>19,500</u> |
| Inventory damaged | | 66,400 |
| Less: Salvage value of damaged inventory | | <u>8,150</u> |
| Fire loss on inventory | | <u><u>¥ 58,250</u></u> |

| |
|--------------------|
| PROBLEM 9-6 |
|--------------------|

STANISLAW CORPORATION
Computation of Inventory Fire Loss
April 15, 2011

| | | | |
|-------------------------------------------|---------------|---------------|-----------------|
| Inventory, 1/1/11 | | € 75,000 | |
| Purchases, 1/1/ – 3/31/11 | | 52,000 | |
| April merchandise shipments paid | | 3,400 | |
| Unrecorded purchases on account | | <u>15,600</u> | |
| Total..... | | | 146,000 |
| Less: Shipments in transit..... | € 2,300 | | |
| Merchandise returned..... | <u>950</u> | | <u>3,250</u> |
| Merchandise available for sale | | | 142,750 |
| Less estimated cost of sales: | | | |
| Sales, 1/1/ – 3/31/11 | 135,000 | | |
| Sales, 4/1/ – 4/15/11 | | | |
| Receivables acknowledged | | | |
| at 4/15/11 | €46,000 | | |
| Estimated receivables not | | | |
| acknowledged..... | <u>8,000</u> | | |
| Total..... | 54,000 | | |
| Add collections, 4/1/ – 4/15/11 | | | |
| (€12,950 – €950)..... | <u>12,000</u> | | |
| Total..... | 66,000 | | |
| Less receivables, 3/31/11 | <u>40,000</u> | <u>26,000</u> | |
| Total sales 1/1/ – 4/15/11..... | | 161,000 | |
| Less gross profit (45%* X €161,000) | <u>72,450</u> | | <u>88,550</u> |
| Estimated merchandise inventory | | | 54,200 |
| Less: Sale of salvaged inventory | | | <u>3,500</u> |
| Inventory fire loss | | | <u>€ 50,700</u> |

PROBLEM 9-6 (Continued)

*Computation of Gross Profit Ratio

| | | |
|------------------------------------------------|----------------|-----------------|
| Net sales, 2009 | | €390,000 |
| Net sales, 2010 | | <u>530,000</u> |
| Total net sales | | 920,000 |
| Beginning inventory | € 66,000 | |
| Net purchases, 2009 | 235,000 | |
| Net purchases, 2010 | <u>280,000</u> | |
| Total | 581,000 | |
| Less: Ending inventory | <u>75,000</u> | <u>506,000</u> |
| Gross profit | | <u>€414,000</u> |
| | | |
| Gross profit ratio (€414,000 ÷ €920,000) | | <u>45%</u> |

| |
|--------------------|
| PROBLEM 9-7 |
|--------------------|

| (a) | Cost | Retail |
|-------------------------------------------|--------------------|--------------------|
| Beginning Inventory | HK\$ 17,000 | HK\$ 25,000 |
| Purchases | 82,500 | 137,000 |
| Freight-in | 7,000 | |
| Purchase returns | (2,300) | (3,000) |
| Transfers in from suburban branch..... | 9,200 | 13,000 |
| Totals | <u>HK\$113,400</u> | 172,000 |
| Net markups | | <u>8,000</u> |
| | | 180,000 |
| Net markdowns | | (4,000) |
| Sales | HK\$(95,000) | |
| Sales returns..... | <u>2,400</u> | (92,600) |
| Inventory losses due to breakage | | <u>(400)</u> |
| Ending inventory at retail | | <u>HK\$ 83,000</u> |

$$\text{Cost-to-retail ratio} = \frac{\text{HK\$113,400}}{\text{HK\$180,000}} = 63\%$$

| | | |
|------------|----------------------------------|--------------------|
| (b) | Ending inventory at LCNRV | |
| | (63% of HK\$83,000) | <u>HK\$ 52,290</u> |

PROBLEM 9-8

| | <u>Cost</u> | <u>Retail</u> |
|----------------------------------------|--------------------|-------------------|
| Beginning Inventory | \$ 250,000 | \$ 390,000 |
| Purchases | 914,500 | 1,460,000 |
| Purchase returns | (60,000) | (80,000) |
| Purchase discounts | (18,000) | — |
| Freight-in | 42,000 | — |
| Markups | \$ 120,000 | — |
| Markup cancellations | <u>(40,000)</u> | <u>80,000</u> |
| Totals | <u>\$1,128,500</u> | 1,850,000 |
| Markdowns | (45,000) | — |
| Markdown cancellations | <u>20,000</u> | (25,000) |
| Sales | (1,410,000) | — |
| Sales returns | <u>97,500</u> | (1,312,500) |
| Inventory losses due to breakage | | (4,500) |
| Employee discounts | | <u>(8,000)</u> |
| Ending inventory at retail | | <u>\$ 500,000</u> |

$$\text{Cost-to-retail ratio} = \frac{\$1,128,500}{\$1,850,000} = 61\%$$

| | |
|--------------------------|-------------------|
| Ending inventory at cost | |
| (61% of \$500,000) | <u>\$ 305,000</u> |

PROBLEM 9-9

| (a) | Cost | Retail |
|------------------------------------|-----------------|----------------|
| Inventory (beginning)..... | £ 52,000 | £ 78,000 |
| Purchases | 272,000 | 423,000 |
| Purchase returns | (5,600) | (8,000) |
| Freight-in | 16,600 | — |
| Totals | £335,000 | 493,000 |
| Markups | | 9,000 |
| Markup cancellations | | (2,000) |
| | | 500,000 |
| Net markdowns | | (3,600) |
| Normal spoilage and breakage | | (10,000) |
| Sales | | (390,000) |
| Ending inventory at retail | | £ 96,400 |

$$\text{Cost-to-retail ratio} = \frac{\text{£335,000}}{\text{£500,000}} = 67\%$$

Ending inventory at LCNRV

| | |
|------------------------|------------------------|
| (67% of £96,400) | <u>£ 64,588</u> |
|------------------------|------------------------|

- (b) The difference between the inventory estimate per retail method and the amount per physical count may be due to:
1. Theft losses (shoplifting or pilferage).
 2. Spoilage or breakage above normal.
 3. Differences in cost/retail ratio for purchases during the month, beginning inventory, and ending inventory.
 4. Markups on goods available for sale inconsistent between cost of goods sold and ending inventory.
 5. A wide variety of merchandise with varying cost/retail ratios.
 6. Incorrect reporting of markdowns, additional markups, or cancellations.

| |
|---------------------|
| PROBLEM 9-10 |
|---------------------|

- (a) The inventory section of Maddox's statement of financial position as of November 30, 2010, including required footnotes, is presented below. Also presented below are the inventory section supporting calculations.

Current assets

Inventory Section (*Note 1.*)

| | |
|-----------------------------------------|--------------------|
| Finished goods (<i>Note 2.</i>) | \$643,000 |
| Work-in-process | 108,700 |
| Raw materials | 237,400 |
| Factory supplies | <u>64,800</u> |
| Total inventories | <u>\$1,053,900</u> |

Note 1. Lower-of-cost (first-in, first-out) or-net realizable value is applied on a major category basis for finished goods, and on a total inventory basis for work-in-process, raw materials, and factory supplies.

Note 2. Seventy-five percent of bar end shifters finished goods inventory in the amount of \$136,500 ($\$182,000 \times .75$) is pledged as collateral for a bank loan, and one-half of the head tube shifters finished goods is held by catalog outlets on consignment.

PROBLEM 9-10 (Continued)**Supporting Calculations**

| | <u>Finished Goods</u> | <u>Work-in- Process</u> | <u>Raw Materials</u> | <u>Factory Supplies</u> |
|---------------------------------|---------------------------|-----------------------------|--------------------------|-----------------------------|
| Down tube shifters at NRV | \$266,000 | | | |
| Bar end shifters at cost | 182,000 | | | |
| Head tube shifters at cost..... | 195,000 | | | |
| Work-in-process at NRV | | \$108,700 | | |
| Deraileurs at NRV | | | \$110,000 ¹ | |
| Remaining items at NRV | | | 127,400 | |
| Supplies at cost..... | | | | \$64,800 ² |
| Totals | <u>\$643,000</u> | <u>\$108,700</u> | <u>\$237,400</u> | <u>\$64,800</u> |

¹\$264,000 X 1/2 = \$132,000; \$132,000 ÷ 1.2 = \$110,000.

²\$69,000 – \$4,200 = \$64,800.

- (b) The decline in the net realizable value of inventory below cost may be reported using one or two alternate methods, the cost of goods sold method or the loss method. The decline in the net realizable value of inventory may be reflected in Maddox's income statement as a separate loss item for the fiscal year ended November 30, 2010. The loss amount may also be written off directly, increasing the cost of goods sold on Maddox's income statement. The loss must be reported in continuing operations. The loss must be included in the income statement since it is material to Maddox's financial statements.
- (c) Purchase contracts for which a firm price has been established should be disclosed on the financial statements of the buyer. If the contract price is greater than the current market price and a loss is expected when the purchase takes place, an unrealized holding loss amounting to the difference between the contracted price and the current market price should be recognized on the income statement in the period during which the price decline takes place. Also, an estimated liability on purchase commitments should be recognized on the statement of financial position. The recognition of the loss is unnecessary if a firm sales commitment exists which precludes the loss.

| |
|---------------------|
| PROBLEM 9-11 |
|---------------------|

(a)

Schedule A

| Item | On Hand Quantity | Cost | NRV | Lower-of-Cost-or-NRV |
|------|------------------|-------|-------|----------------------|
| A | 1,100 | ¥7.50 | ¥9.00 | ¥7.50 |
| B | 800 | 8.20 | 8.10 | 8.10 |
| C | 1,000 | 5.60 | 5.45 | 5.45 |
| D | 1,000 | 3.80 | 4.50 | 3.80 |
| E | 1,400 | 6.40 | 6.00 | 6.00 |

Schedule B

| Item | Cost | Lower-of-Cost-or-NRV | Difference |
|------|------------------------|------------------------|-------------|
| A | 1,100 X ¥7.50 = ¥8,250 | 1,100 X ¥7.50 = ¥8,250 | None |
| B | 800 X ¥8.20 = ¥6,560 | 800 X ¥8.10 = ¥6,480 | ¥ 80 |
| C | 1,000 X ¥5.60 = ¥5,600 | 1,000 X ¥5.45 = ¥5,450 | ¥150 |
| D | 1,000 X ¥3.80 = ¥3,800 | 1,000 X ¥3.80 = ¥3,800 | None |
| E | 1,400 X ¥6.40 = ¥8,960 | 1,400 X ¥6.00 = ¥8,400 | <u>¥560</u> |
| | | | <u>¥790</u> |

| | | | |
|-----|-----------------------------------------------|-----|-----|
| (b) | Cost of Goods Sold..... | 790 | |
| | Allowance to Reduce Inventory to NRV | | 790 |
| | or | | |
| | Loss Due to Decline of Inventory to NRV | 790 | |
| | Allowance to Reduce Inventory to NRV | | 790 |

PROBLEM 9-11 (Continued)

(c)

To: Jay Shin, Clerk

From: Accounting Manager

Date: January 14, 2011

Subject: Instructions on determining lower-of-cost-or-net realizable value for inventory valuation

This memo responds to your questions regarding our use of lower-of-cost-or-net realizable value for inventory valuation. Simply put, value inventory at whichever is the lower: the actual cost or the net realizable value of the inventory at the time of valuation.

The term cost is relatively simple. It refers to the amount our company paid for our inventory including costs associated with preparing the inventory for sale.

The term net realizable value, on the other hand, is more complicated. As you have already noticed, this value is the estimated selling price minus any estimated costs to complete and sell) the item. This net realizable value is then compared to the actual cost in determining the lower-of-cost-or-net realizable value.

Refer to Item A on the attached schedule. The values for the cost and net realizable value are ¥7.50, and ¥9.00 (¥10.50 – ¥1.50), respectively. Compare the net realizable value with the actual cost, choosing the lower to value Item A in inventory. In this case, ¥7.50 is the value chosen to value inventory. Thus, inventory for Item A amounts to ¥8,250. (See Schedule B, Item A.)

PROBLEM 9-11 (Continued)

Proceed in the same way, always choosing the lowest among cost, and net realizable value.

After you have aggregated the total lower-of-cost-or-net realizable value for all items, you will be likely to have a loss on inventory which must be accounted for. In our example, the loss is ¥790. You can journalize this loss in one of two ways:

| | | |
|--------------------------------------------|-----|-----|
| Cost of Goods Sold..... | 790 | |
| Allowance to Reduce Inventory to NRV | | 790 |

or

| | | |
|-----------------------------------------------|-----|-----|
| Loss Due to Decline of Inventory to NRV | 790 | |
| Allowance to Reduce Inventory to NRV | | 790 |

This memo should answer your questions about which value to choose when valuing inventory at lower-of-cost-or-net realizable value.

Schedule A

| Item | On Hand Quantity | Cost | NRV | Lower-of- Cost- or-NRV |
|------|---------------------|-------|-------|---------------------------|
| A | 1,100 | ¥7.50 | ¥9.00 | ¥7.50 |
| B | 800 | 8.20 | 8.10 | 8.10 |
| C | 1,000 | 5.60 | 5.45 | 5.45 |
| D | 1,000 | 3.80 | 4.50 | 3.80 |
| E | 1,400 | 6.40 | 6.00 | 6.00 |

Schedule B

| Item | Cost | Lower-of-Cost-or-NRV | Difference |
|------|------------------------|------------------------|-------------|
| A | 1,100 X ¥7.50 = ¥8,250 | 1,100 X ¥7.50 = ¥8,250 | None |
| B | 800 X ¥8.20 = ¥6,560 | 800 X ¥8.10 = ¥6,480 | ¥ 80 |
| C | 1,000 X ¥5.60 = ¥5,600 | 1,000 X ¥5.45 = ¥5,450 | ¥150 |
| D | 1,000 X ¥3.80 = ¥3,800 | 1,000 X ¥3.80 = ¥3,800 | None |
| E | 1,400 X ¥6.40 = ¥8,960 | 1,400 X ¥6.00 = ¥8,400 | ¥560 |
| | | | <u>¥790</u> |

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 9-1 (Time 15–25 minutes)

Purpose—to provide the student with an opportunity to discuss the purpose, the application, and the potential disadvantages of the lower-of-cost-or-net realizable value method.

CA 9-2 (Time 20–30 minutes)

Purpose—to provide the student with an opportunity to examine ethical issues related to lower-of-cost-or-net realizable value on an individual-product basis. A relatively straightforward case.

CA 9-3 (Time 15–20 minutes)

Purpose—to provide the student with a case that requires an application and an explanation of the lower-of-cost-or-net realizable value rule and a differentiation of the FIFO and the average cost methods.

CA 9-4 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to discuss the main features of the retail inventory system. In this case, the following must be explained: (a) accounting features of the method, (b) conditions that may distort the results under the method, (c) advantages of using the retail method versus using a cost method, and (d) the accounting theory underlying net markdowns and net markups. A relatively straightforward case.

CA 9-5 (Time 15–25 minutes)

Purpose—the student discusses which costs are inventoriable, the theoretical arguments for the lower-of-cost-or-net realizable value rule, and the amount that should be used to value inventories. The treatment of beginning inventories and net markdowns when using the conventional retail inventory method must be explained.

CA 9-6 (Time 10–15 minutes)

Purpose—to provide the student with a case that allows examination of ethical issues related to the recording of purchase commitments.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 9-1

- (a) The purpose of using the LCNRV method is to reflect the decline of inventory value below its original cost. A departure from cost is justified on the basis that a loss of utility should be reported as a charge against the revenues in the period in which it occurs.
- (b) The term “net realizable value” in LCNRV generally means the estimated selling price in the ordinary course of business less reasonably predictable costs of completion and disposal.
- (c) The LCNRV method may be applied either directly to each inventory item, to a category, or to the total inventory. The application of the rule to the inventory total, or to the total components of each category, ordinarily results in an amount that more closely approaches cost than it would if the rule were applied to each individual item. Under the first two methods, increases in net realizable value offset, to some extent, the decreases in net realizable value. The most common practice is, however, to price the inventory on an item-by-item basis. Many companies favor the individual item approach because tax rules in certain jurisdictions require that an individual item basis be used unless it involves practical difficulties. In addition, the individual item approach gives the most conservative valuation for statement of financial position purposes.
- (d) Conceptually, the LCNRV method has some deficiencies. First, decreases in the value of the asset and the charge to expense are recognized in the period in which loss in utility occurs—not in the period of sale. On the other hand, increases in the value of the asset are recognized only at the point of sale. This situation is inconsistent and can lead to distortions in the presentation of income data.

Second, net realizable value reflects the future service potential of the asset and, for that reason, it is conceptually sound. But net realizable value cannot often be measured with any certainty.

From the standpoint of accounting theory there is little to justify the LCNRV rule. Although conservative from the statement of financial position point of view, it permits the income statement to show a larger net income in future periods than would be justified if the inventory were carried forward at cost. The rule is applied only in those cases where strong evidence indicates that market declines in inventory prices have occurred that will result in losses when such inventories are disposed of.

CA 9-2

- (a) The accountant’s ethical responsibility is to provide fair and complete financial information. In this case, the cost of goods sold method distorts the cost of goods sold and hides the decline in market value.
- (b) If Wright’s cost of goods sold method is used, management may have difficulty in calculations that involve the cost of goods sold. For example, these calculations are useful in establishing profit margins and determining selling prices; but from the investors’ and stockholders’ viewpoint, it is not good policy to hide declines in market value.

CA 9-2 (Continued)

- (c) Conan should use the loss method to disclose the decline in market value and avoid distorting cost of goods sold. However, she faces an ethical dilemma if Wright will not accept the method Conan wants to use. She should consider various alternatives including the extremes of simply accepting her boss's decision to quitting if Wright will not change his mind. Conan should assess the consequences of each possible alternative and weigh them carefully before she decides what to do.

CA 9-3

- (a) (1) Ogala's inventory should be reported at net realizable value consistent with the LCNRV rule since net realizable value is below original cost.

(2) The LCNRV rule is used to report the inventory in the statement of financial position at its future utility value. It also recognizes a decline in the utility of inventory in the income statement in the period in which the decline occurs.
- (b) Generally, ending inventory would have been higher and cost of goods sold would have been lower had Ogala used the average cost inventory method in a period of declining prices. Inventory quantities increased and average cost associates the all purchase prices with inventory. However, in this instance, there would have been no effect on ending inventory or cost of goods sold had Ogala used the average inventory method because Ogala's inventory would have been reported at net realizable value according to the LCNRV rule. Net realizable value of the inventory is less than either its average cost or FIFO cost.

CA 9-4

- (a) The retail inventory method can be employed to estimate retail, wholesale, and manufacturing finished goods inventories.

The valuation of inventory under this method is arrived at by reducing the ending inventory at retail to an estimate of LCNRV. The retail value of ending inventory can be computed by (1) taking a physical inventory, or by (2) subtracting net sales and net markdowns from the total retail value of merchandise available for sale (i.e., the sum of beginning inventory at retail, net purchases at retail, and net markups). The reduction of ending inventory at retail to an estimate of the lower-of-cost-or-market is accomplished by applying to it an estimated cost ratio arrived at by dividing the retail value of merchandise available for sale as computed in (2) above into the cost of merchandise available for sale (i.e., the sum of beginning inventory, net purchases, and other inventoriable costs).

- (b) Since the retail method is based on an estimated cost ratio involving total merchandise available during the period, its validity depends on the underlying assumption that the merchandise in ending inventory is a representative mixture of all merchandise handled. If this condition does not exist, the cost ratio may not be appropriate for the merchandise in ending inventory and can result in significant error.

Where there are a number of inventory subdivisions for which differing rates of markup are maintained, there is no assurance that the ending inventory mix will be representative of the total merchandise handled during the period. In such cases accurate results can be obtained by sub-classifications by rate of markup.

CA 9-4 (Continued)

Seasonal variations in the rate of markup will nullify the ending inventory “representative mix” assumption. Since the estimated cost ratio is based on total merchandise handled during the period, the same rate of markup should prevail throughout the period. Because of seasonal variations it may be necessary to use data for the last six months, quarter, or month to compute a cost ratio that is appropriate for ending inventory.

Material quantities of special sale merchandise handled during the period may also bias the result of this method because merchandise data included in arriving at the estimated cost ratio may not be proportionately represented in ending inventory. This condition may be avoided by accumulating special sale merchandise data in separate accounts.

Distortion of the ending inventory approximation under this method is often caused by an inadequate system of inventory control. Adequate accounting controls are necessary for the accurate accumulation of the data needed to arrive at a valid cost ratio. Physical controls are equally important because, for interim purposes, this method is usually applied without taking a physical inventory.

- (c) The advantages of using the retail method as compared to cost methods include the following:
 - 1. Approximate inventory values can be determined without maintaining perpetual inventory records.
 - 2. The preparation of interim financial statements is facilitated.
 - 3. Losses due to fire or other casualty are readily determined.
 - 4. Clerical work in pricing the physical inventory is reduced.
 - 5. The cost of merchandise can be kept confidential in intracompany transfers.
- (d) The treatments to be accorded net markups and net markdowns must be considered in light of their effects on the estimated cost ratio. If both net markups and net markdowns are used in arriving at the cost ratio, ending inventory will be converted to an estimated average cost figure. Excluding net markdowns will result in the inventory being stated at an estimate of the LCNRV.

The lower cost ratio arrived at by excluding net markdowns permits the pricing of inventory at an amount that reflects its current utility. The assumption is that net markdowns represent a loss of utility that should be recognized in the period of markdown. Ending inventory is therefore valued on the basis of its revenue-producing potential and may be expected to produce a normal gross profit if sold at prevailing retail prices in the next period.

CA 9-5

- (a) (1) Olson’s inventoriable cost should include all costs incurred to get the lighting fixtures ready for sale to the customer. It includes not only the purchase price of the fixtures but also the other associated costs incurred on the fixtures up to the time they are ready for sale to the customer, for example, freight-in.
- (2) No, administrative costs are assumed to expire with the passage of time and not to attach to the product. Furthermore, administrative costs do not relate directly to inventories, but are incurred for the benefit of all functions of the business.

CA 9-5 (Continued)

- (b) (1) The LCNRV rule is used for valuing inventories because of the concept of conservatism and because the decline in the utility of the inventories below their cost should be recognized as a loss in the current period.
- (2) The net realizable value should be used to value the inventories because the net realizable value is less than the cost. To carry the inventories at NRV provides a means of measuring residual usefulness of an inventory expenditure.
- (c) Olson's beginning inventories at cost and at retail would be included in the calculation of the cost ratio.

Net markdowns would be excluded from the calculation of the cost ratio. This procedure reduces the cost ratio because there is a larger denominator for the cost ratio calculation. Thus, the concept of conservatism is being followed and a LCNRV valuation is approximated.

CA 9-6

- (a) Accounting standards require that when a contracted price is in excess of market, as it is in this case (market is \$5,000,000 and the contract price is \$6,000,000), and it is expected that losses will occur when the purchase is effected, losses should be recognized in the period during which such declines in market prices take place. It would be unethical to ignore recognition of the loss now if a loss is expected to occur when the purchase is affected.
- (b) If the loss is material, new and continuing shareholders are harmed by nonrecognition of the loss. Herman's position as an accounting professional also is affected if he accepts a financial report he knows violates accounting standards.
- (c) If the preponderance of the evidence points to a loss when the purchase is affected, the controller should recognize the amount of the loss in the period in which the price decline occurs. In this case the loss is measured at \$1,000,000 and recorded as follows:

| | | |
|----------------------------------------------|-----------|-----------|
| Unrealized Holding Gain or Loss—Income | 1,000,000 | |
| Purchase Commitment Liability | | 1,000,000 |

Herman should insist on statement preparation in accordance with accounting standards. If Hands will not accept Herman's position, Herman will have to consider alternative courses of action such as contacting higher-ups at Prophet and assess the consequences of each course of action.

FINANCIAL REPORTING PROBLEM

- (a) Inventories are valued at the lower-of-cost-or-net realisable value using the retail method, which is computed on the basis of selling price less the appropriate trading margin. All inventories are finished goods.
- (b) Inventories are reported on the statement of financial position simply as “Inventories.” The footnotes indicate that all inventories are finished goods.
- (c) The only information given is “The cost of sales above represents cost of inventories recognised as an expense in the year.”

(d) Inventory turnover =
$$\frac{\text{Cost of Sales}}{\text{Average Inventory}} = \frac{£5,535.2}{\frac{£488.9 + £416.3}{2}}$$

= 12.23 or approximately 30 days to turn its inventory. Turnover remains high.

Its gross profit percentages for 2008 and 2007 are as follows:

| | <u>2008</u> | <u>2007</u> |
|-----------------------------------|------------------|------------------|
| Net sales | £9,022.0 | £8,588.1 |
| Cost of sales | <u>5,535.2</u> | <u>5,246.9</u> |
| Gross profit | <u>£3,486.8</u> | <u>£3,341.2</u> |
| Gross profit percentage | <u>38.6%</u> | <u>38.9%</u> |

M&S had a small improvement in its gross profit and and slight decline in gross profit percentage. Sales in 2008 showed a 5.1% increase, due to increased UK locations and strong international performance. It appears that M&S has been able to maintain gross profit percentage on these increased sales.

COMPARATIVE ANALYSIS CASE

- (a) Cadbury reported inventories of £767 million, which represents 9% of total assets. Nestlé reported inventories of CHF 9,342 million, which represents 9% of its total assets.

- (b) Cadbury determines the cost of its inventories on the basis of average cost; its inventories are valued at the lower-of-cost-or-net realisable value. Nestlé reported that raw materials and purchased finished goods are valued at purchased cost; work in progress and manufactured finished goods are valued at production cost. FIFO and average cost is used.

- (c) Cadbury classifies its inventories as raw materials, and consumables work in progress, and finished goods and goods for resale. Nestlé classifies its inventories as (1) raw materials, work in progress, and sundry supplies, (2) finished goods, and (3) allowance for write-down at net realisable value.

- (d) Inventory turnover ratios and days to sell inventory for 2008:

| Cadbury | Nestlé |
|---------------------------------------------|-------------------------------------------------------------------------|
| $\frac{£2,870}{£794^*} = 3.6 \text{ times}$ | $\frac{\text{CHF } 47,339}{\text{CHF } 9,307^{**}} = 5.1 \text{ times}$ |
| $365 \div 3.6 = 101 \text{ days}$ | $365 \div 5.1 = 72 \text{ days}$ |

* $(£767 + £821) \div 2$

** $(\text{CHF}9,342 + \text{CHF}9,272) \div 2$

A substantial difference between Cadbury and Nestle exists regarding the inventory turnover and related days to sell inventory. A possible reason is that Cadbury is more manufacturing intensive.

FINANCIAL STATEMENT ANALYSIS CASE

- (a) There are probably no finished goods because gold is a highly liquid commodity, and so it can be sold as soon as processing is complete. Ore in stockpiles is a noncurrent asset probably because processing takes more than one year.

- (b) Sales are recorded as follows:

| | | |
|----------------------------------|-----|-----|
| Accounts Receivable or Cash..... | XXX | |
| Sales Revenue | | XXX |

AND

| | | |
|---------------------------------|-----|-----|
| Cost of Goods Sold | XXX | |
| Gold in Process Inventory | | XXX |

| (c) | Statement of Financial Position | | Income Statement |
|-----|---------------------------------|------------|--------------------------------|
| | Inventory | Overstated | Cost of goods sold Understated |
| | Retained earnings | Overstated | Net income Overstated |
| | Accounts payable | No effect | |
| | Working capital | Overstated | |
| | Current ratio | Overstated | |

ACCOUNTING, ANALYSIS, AND PRINCIPLES

ACCOUNTING

(a)

| Item | Units | Cost Per Unit | Total Cost | NRV Per Unit | Total NRV | LCNRV |
|-------------|-------|---------------|------------------|--------------|------------------|------------------|
| Residential | 500 | * | \$245,000* | \$550 | \$275,000 | \$245,000 |
| Commercial | 500 | \$1,000 | <u>500,000</u> | 900 | <u>450,000</u> | <u>450,000</u> |
| | | | <u>\$745,000</u> | | <u>\$725,000</u> | <u>\$695,000</u> |

$$\begin{array}{rcl} *300 \times \$500 & = & \$150,000 \\ 200 \times \$475 & = & \underline{95,000} \\ & & \$245,000 \end{array}$$

(b) \$725,000 since NRV is less than cost.

ANALYSIS

The individual product approach is better because Englehart expects that the costs for the commercial pumps to be significantly different and lower than current purchases. However, the costs for the residential pumps are more stable and increasing somewhat.

PRINCIPLES

- (a) Under U.S. GAAP, the LCNRV as of March 31 is now considered the inventories cost. As a result, inventory may not be written back up to its original cost in subsequent periods.
- (b) Under IFRS, the write-down may be reversed in a subsequent period up to the amount of the previous write-down.
- (c) When reversals are not permitted, the cost of goods sold when the inventory is finally sold reflects the new basis. As a result, gross profits are overstated relative to the gross profit that would be obtained in current operations. The subsequent realization of the reversal is buried within the cost of goods sold.

(a) The objective of this Standard is to prescribe the accounting treatment for inventories. A primary issue in accounting for inventories is the amount of cost to be recognised as an asset and carried forward until the related revenues are recognised. This Standard provides guidance on the determination of cost and its subsequent recognition as an expense, including any write-down to net realizable value. It also provides guidance on the cost formulas that are used to assign costs to inventories. (IAS 2, paragraph 1).

(b) Inventories are assets:

- (a) held for sale in the ordinary course of business;**
- (b) in the process of production for such sale; or**
- (c) in the form of materials or supplies to be consumed in the production process or in the rendering of services.**

(IAS 2, paragraph 6)

This Standard applies to all inventories, except:

- (a) work in progress arising under construction contracts, including directly related service contracts (see IAS 11 Construction Contracts);**
- (b) financial instruments (see IAS 32 Financial Instruments: Presentation and IAS 39 Financial Instruments: Recognition and Measurement); and**
- (c) biological assets related to agricultural activity and agricultural produce at the point of harvest (see IAS 41 Agriculture).**

(IAS 2, paragraph 2)

(c) Net realisable value refers to the net amount that an entity expects to realise from the sale of inventory in the ordinary course of business. Fair value reflects the amount for which the same inventory could be exchanged between knowledgeable and willing buyers and sellers in the marketplace. The former is an entity-specific value; the latter is not. Net realisable value for inventories may not equal fair value less costs to sell. (IAS 2, paragraph 7).

PROFESSIONAL RESEARCH (Continued)

- (d) This Standard does not apply to the measurement of inventories held by:**
- (a) producers of agricultural and forest products, agricultural produce after harvest, and minerals and mineral products, to the extent that they are measured at net realisable value in accordance with well-established practices in those industries. When such inventories are measured at net realisable value, changes in that value are recognised in profit or loss in the period of the change.**
 - (b) commodity broker-traders who measure their inventories at fair value less costs to sell. When such inventories are measured at fair value less costs to sell, changes in fair value less costs to sell are recognised in profit or loss in the period of the change.**
- (IAS 2, paragraph 3).**

PROFESSIONAL SIMULATION

Resources

| | B | C | D | E | F | G | H | I | J | K | L |
|----|-----------------|-------------------------|-------------------------------------|-----------|---------------|-----------|------------------|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | Market | | | | | | | | | | |
| 8 | Number of Units | Estimated Selling Price | Estimated Cost to Complete and Sale | NRV | Original Cost | LCNRV | Total Difference | | | | |
| 9 | 1,000 | HK\$30.00 | HK\$15.00 | HK\$15.00 | HK\$17.50 | HK\$15.00 | (HK\$2,500.00) | | | | |
| 10 | 1,000 | 100.00 | 26.00 | 74.00 | 48.00 | 48.00 | 0.00 | | | | |
| 11 | 1,000 | 80.00 | 38.00 | 42.00 | 35.00 | 35.00 | 0.00 | | | | |
| 12 | 1,000 | 95.00 | 49.00 | 46.00 | 47.50 | 46.00 | (1,500.00) | | | | |
| 13 | | | | | | Total | (HK\$4,000.00) | | | | |
| 14 | | | | | | | ===== | | | | |

The following function is inserted in the cells in this column:
=MIN(F7:G7)

The following formula is inserted in the cells in this column: =+(H7-G7)*B7

The following formula is inserted in this cell:
=SUM(I9:I12)

Journal Entry

| | | |
|---------------------------------------------|--------------|--------------|
| Cost of Goods Sold | 4,000 | |
| Allowance to Reduce Inventory to NRV | | 4,000 |

Note: This entry assumes use of the cost-of-goods-sold method.

Explanation

Expected selling prices are important in the application of the lower-of-cost-or-net realizable value rule because they are used in measuring losses of utility in inventory that otherwise would not be recognized until the period during which the inventory is sold. Declines in cost generally are assumed to foreshadow declines in selling prices expected in the next period and hence in the revenue expected upon the sale of the inventory during the next period.

CHAPTER 10

Acquisition and Disposition of Property, Plant, and Equipment

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|------------------------------------------------------------------------|---------------------------|--------------------|------------------------------|-----------------|--------------------------|
| 1. Valuation and classification of land, buildings, and equipment. | 1, 2, 3, 5, 6, 11, 12, 21 | 1 | 1, 2, 3, 4, 5, 13 | 1, 2, 3, 5 | 1, 6, 7 |
| 2. Self-constructed assets, capitalization of overhead. | 4, 7, 20, 21 | | 4, 6, 12, 16 | | 2 |
| 3. Capitalization of interest. | 7, 8, 9, 10, 12, 21 | 2, 3, 4 | 4, 5, 7, 8, 9, 10, 16 | 1, 5, 6, 7 | 3, 4 |
| 4. Exchanges of non-monetary assets. | 11, 15, 16 | 8, 9, 10, 11, 12 | 3, 11, 16, 17, 18, 19, 20 | 4, 8, 9, 10, 11 | 5 |
| 5. Lump-sum purchases, issuance of shares, deferred-payment contracts. | 11, 13, 14 | 5, 6, 7 | 3, 6, 11, 12, 13, 14, 15, 16 | 2, 3, 11 | |
| 6. Government grants. | 17 | 14 | 21, 22 | | |
| 7. Costs subsequent to acquisition. | 18, 19 | 13 | 23, 24, 25 | | 1 |
| 8. Disposition of assets. | 22, 23 | 15, 16 | 26, 27 | 4 | 1 |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------|-----------------------|
| 1. Describe property, plant, and equipment. | | | |
| 2. Identify the costs to include in initial valuation of property, plant, and equipment. | 1 | 1, 2, 3, 4, 5, 11, 12, 13 | 1, 2, 3, 4, 5, 6, 11 |
| 3. Describe the accounting problems associated with self-constructed assets. | | 4, 5, 6, 11, 12 | 3 |
| 4. Describe the accounting problems associated with interest capitalization. | 2, 3, 4 | 5, 6, 7, 8, 9, 10 | 5, 6, 7, 8, 9, 10, 11 |
| 5. Understand accounting issues related to acquiring and valuing plant assets. | 5, 6, 7, 8, 9, 10, 11, 12, 14 | 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 | 3, 4 |
| 6. Describe the accounting treatment for costs subsequent to acquisition. | 13 | 23, 24, 25 | |
| 7. Describe the accounting treatment for the disposal of property, plant, and equipment. | 15, 16 | 26, 27 | 2, 4, 11 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|----------------------------------------------------------------------|---------------------|----------------|
| E10-1 | Acquisition costs of realty. | Moderate | 15–20 |
| E10-2 | Acquisition costs of realty. | Simple | 10–15 |
| E10-3 | Acquisition costs of trucks. | Simple | 10–15 |
| E10-4 | Purchase and self-constructed cost of assets. | Moderate | 20–25 |
| E10-5 | Treatment of various costs. | Moderate | 20–25 |
| E10-6 | Correction of improper cost entries. | Moderate | 15–20 |
| E10-7 | Capitalization of interest. | Moderate | 20–25 |
| E10-8 | Capitalization of interest. | Moderate | 20–25 |
| E10-9 | Capitalization of interest. | Moderate | 20–25 |
| E10-10 | Capitalization of interest. | Moderate | 20–25 |
| E10-11 | Entries for equipment acquisitions. | Simple | 10–15 |
| E10-12 | Entries for asset acquisition, including self-construction. | Simple | 15–20 |
| E10-13 | Entries for acquisition of assets. | Simple | 20–25 |
| E10-14 | Purchase of equipment with zero-interest-bearing debt. | Moderate | 15–20 |
| E10-15 | Purchase of computer with zero-interest-bearing debt. | Moderate | 15–20 |
| E10-16 | Asset acquisition. | Moderate | 25–35 |
| E10-17 | Non-monetary exchange. | Simple | 10–15 |
| E10-18 | Non-monetary exchange. | Moderate | 20–25 |
| E10-19 | Non-monetary exchange. | Moderate | 15–20 |
| E10-20 | Non-monetary exchange. | Moderate | 15–20 |
| E10-21 | Government grants. | Simple | 15–20 |
| E10-22 | Government grants. | Moderate | 10–15 |
| E10-23 | Analysis of subsequent expenditures. | Moderate | 20–25 |
| E10-24 | Analysis of subsequent expenditures. | Simple | 15–20 |
| E10-25 | Analysis of subsequent expenditures. | Simple | 10–15 |
| E10-26 | Entries for disposition of assets. | Moderate | 20–25 |
| E10-27 | Disposition of assets. | Simple | 15–20 |
| P10-1 | Classification of acquisition and other asset costs. | Moderate | 35–40 |
| P10-2 | Classification of acquisition costs. | Moderate | 40–55 |
| P10-3 | Classification of land and building costs. | Moderate | 35–45 |
| P10-4 | Dispositions, including condemnation, demolition, and trade-in. | Moderate | 35–40 |
| P10-5 | Classification of costs and interest capitalization. | Moderate | 20–30 |
| P10-6 | Interest during construction. | Moderate | 25–35 |
| P10-7 | Capitalization of interest. | Moderate | 20–30 |
| P10-8 | Non-monetary exchanges. | Moderate | 35–45 |
| P10-9 | Non-monetary exchanges. | Moderate | 30–40 |
| P10-10 | Non-monetary exchanges. | Moderate | 30–40 |
| P10-11 | Purchases by deferred payment, lump-sum, and non-monetary exchanges. | Moderate | 35–45 |

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|------------------------------------------------|---------------------|----------------|
| CA10-1 | Acquisition, improvements, and sale of realty. | Moderate | 20–25 |
| CA10-2 | Accounting for self-constructed assets. | Moderate | 20–25 |
| CA10-3 | Capitalization of interest. | Simple | 20–25 |
| CA10-4 | Capitalization of interest. | Moderate | 30–40 |
| CA10-5 | Non-monetary exchanges. | Moderate | 30–40 |
| CA10-6 | Costs of acquisition. | Simple | 20–25 |
| CA10-7 | Cost of land vs. building—ethics. | Moderate | 20–25 |

ANSWERS TO QUESTIONS

1. The major characteristics of plant assets are (1) that they are acquired for use in operations and not for resale, (2) that they are long-term in nature and usually subject to depreciation, and (3) that they have physical substance.
2.
 - (a) The acquisition costs of land may include the purchase or contract price, the broker's commission, title search and recording fees, assumed taxes or other liabilities, and surveying, demolition (less salvage), and landscaping costs.
 - (b) Machinery and equipment costs may properly include freight and handling, taxes on purchase, insurance in transit, installation, and expenses of testing and breaking-in.
 - (c) If a building is purchased, all repair charges, alterations, and improvements necessary to ready the building for its intended use should be included as a part of the acquisition cost. Building costs in addition to the amount paid to a contractor may include excavation, permits and licenses, architect's fees, interest accrued on funds obtained for construction purposes (during construction period only) called avoidable interest, insurance premiums applicable to the construction period, temporary buildings and structures, and property taxes levied on the building during the construction period.
3.
 - (a) Land.
 - (b) Land.
 - (c) Land.
 - (d) Machinery. The only controversy centers on whether fixed overhead should be allocated as a cost to the machinery.
 - (e) Land Improvements, may be depreciated.
 - (f) Building.
 - (g) Building, provided the benefits in terms of information justify the additional cost involved in providing the information.
 - (h) Land.
 - (i) Land.
4.
 - (a) The position that no fixed overhead should be capitalized assumes that the construction of plant (fixed) assets will be timed so as not to interfere with normal operations. If this were not the case, the savings anticipated by constructing instead of purchasing plant assets would be nullified by reduced profits on the product that could have been manufactured and sold. Thus, construction of plant assets during periods of low activity will have a minimal effect on the total amount of overhead costs. To capitalize a portion of fixed overhead as an element of the cost of constructed assets would, under these circumstances, reduce the amount assignable to operations and therefore overstate net income in the construction period and understate net income in subsequent periods because of increased depreciation charges.
 - (b) Capitalizing overhead at the same rate as is charged to normal operations is defended by those who believe that all manufacturing overhead serves a dual purpose during plant asset construction periods. Any attempt to assign construction activities less overhead than the normal rate implies costing favors and results in the misstatement of the cost of both plant assets and finished goods.

Questions Chapter 10 (Continued)

5. (a) Disagree. Promotion expenses should be expensed.
- (b) Agree. Architect's fees for plans actually used in construction of the building should be charged to the building account as part of the cost.
- (c) Agree. IFRS recommends that avoidable interest or actual interest cost, whichever is lower, be capitalized as part of the cost of acquiring an asset if a significant period of time is required to bring the asset to a condition or location necessary for its intended use. Interest costs are capitalized starting with the first expenditure related to the asset and capitalization would continue until the asset is substantially completed and ready for its intended use. Property taxes during construction should also be charged to the building account.
- (d) Agree. Interest revenue earned on specific borrowings is offset against interest costs capitalized.
- (e) Disagree. Operating losses are not considered part of the cost of the building.
6. Since the land for the plant site will be used in the operations of the firm, it is classified as property, plant, and equipment. The other tract is being held for speculation. It is classified as an investment.
7. A common accounting justification is that all costs associated with the construction of an asset, including interest, should be capitalized in order that the costs can be matched to the revenues which the new asset will help generate.
8. Assets that do not qualify for interest capitalization are (1) assets that are in use or ready for their intended use, and (2) assets that are not being used in the earnings activities of the firm and that are not undergoing the activities necessary to get them ready for use.
9. The avoidable interest is determined by multiplying (an) interest rate(s) by the weighted-average amount of accumulated expenditures on qualifying assets. For the portion of weighted-average accumulated expenditures which is less than or equal to any amounts borrowed specifically to finance construction of the assets, the capitalization rate is the specific interest rate incurred. For the portion of weighted-average accumulated expenditures which is greater than specific debt incurred, the interest rate is a weighted average of all other interest rates incurred.

The amount of interest to be capitalized is the avoidable interest, or the actual interest incurred, whichever is lower.

An alternative to the specific rate is to use an average borrowing rate.

10. The total interest cost incurred during the period should be disclosed, indicating the portion capitalized and the portion charged to expense.

IFRS requires that interest revenue earned on specific borrowing offset interest costs capitalized. The interest revenue earned on specific borrowings is directly related to interest cost incurred on that borrowing.

11. (a) **Assets acquired by issuance of ordinary shares**—when property is acquired by issuance of securities such as ordinary shares, the cost of the property is not measured by par or stated value of such shares. If the shares are actively traded on the market, then the fair value of the shares is a fair indication of the cost of the property because the fair value of the shares is a good measure of the current cash equivalent price. If the fair value of the ordinary shares is not determinable, then the fair value of the property should be established and used as the basis for recording the asset and issuance of ordinary shares.

Questions Chapter 10 (Continued)

- (b) **Assets acquired by grant**—when assets are acquired in this manner a strict cost concept would dictate that the valuation of the asset be zero. However, in this situation, most companies record the asset at its fair value. The credit should be made to Deferred Grant Revenue. Another approach would be to deduct the grant from the carrying amount of the assets received from the grant.
- (c) **Cash discount**—when assets are purchased subject to a cash discount, the question of how the discount should be handled occurs. If the discount is taken, it should be considered a reduction in the asset cost. Different viewpoints exist, however, if the discount is not taken. One approach is that the discount must be considered a reduction in the cost of the asset. The rationale for this approach is that the terms of these discounts are so attractive that failure to take the discount must be considered a loss because management is inefficient. The other view is that failure to take the discount should not be considered a loss, because the terms may be unfavorable or the company might not be prudent to take the discount. Presently both methods are employed in practice. The former approach is conceptually correct.
- (d) **Deferred payments**—assets should be recorded at the present value of the consideration exchanged between contracting parties at the date of the transaction. In a deferred payment situation, there is an implicit (or explicit) interest cost involved, and the accountant should be careful not to include this amount in the cost of the asset.
- (e) **Lump sum or basket purchase**—sometimes a group of assets are acquired for a single lump sum. When a situation such as this exists, the accountant must allocate the total cost among the various assets on the basis of their relative fair values.
- (f) **Trade or exchange of assets**—when one asset is exchanged for another asset, the accountant is faced with several issues in determining the value of the new asset. The basic principle involved is to record the new asset at the fair value of the new asset or the fair value of what is given up to acquire the new asset, whichever is more clearly evident. However, the accountant must also be concerned with whether the exchange has commercial substance. The commercial substance issue rests on whether the expected cash flows on the assets involved are significantly different.
12. The cost of such assets includes the purchase price, freight and handling charges incurred, insurance on the equipment while in transit, cost of special foundations if required, assembly and installation costs, and costs of conducting trial runs. Costs thus include all expenditures incurred in acquiring the equipment and preparing it for use. When plant assets are purchased subject to cash discounts for prompt payment, the question of how the discount should be handled arises. The appropriate view is that the discount, whether taken or not, is considered a reduction in the cost of the asset. The rationale for this approach is that the real cost of the asset is the cash or cash equivalent price of the asset. Similarly, assets purchased on long-term payment plans should be accounted for at the present value of the consideration exchanged between the contracting parties at the date of the transaction.
13.
$$\frac{\text{Fair value of land}}{\text{Fair value of building and land}} \times \text{Cost} = \text{Cost allocated to land}$$
- $$\frac{€500,000}{€2,500,000} \times €2,200,000 = €440,000 \quad (\text{Cost allocated to land})$$
- $$\frac{€2,000,000}{€2,500,000} \times €2,200,000 = €1,760,000 \quad (\text{Cost allocated to building})$$

Questions Chapter 10 (Continued)

14. $\$10,000 + \$4,208 = \$14,208$
15. Ordinarily accounting for the exchange of non-monetary assets should be based on the fair value of the asset given up or the fair value of the asset received, whichever is more clearly evident. Thus any gains and losses on the exchange should be recognized immediately. If the fair value of either asset is not reasonably determinable, the book value of the asset given up is usually used as the basis for recording the non-monetary exchange. This approach is always employed when the exchange has commercial substance. The general rule is modified when exchanges lack commercial substance. In this case, the enterprise is not considered to have completed the earnings process and therefore a gain should not be recognized. However, a loss should be recognized immediately.

16. In accordance with IFRS which requires losses to be recognized immediately, the entry should be:

| | | |
|--------------------------------------------|---------|--------|
| Heavy Duty Truck | 42,000 | |
| Accumulated Depreciation | 9,800* | |
| Loss on Disposal of Heavy Duty Truck | 4,200** | |
| Heavy Duty Truck | | 30,000 |
| Cash | | 26,000 |

* $[(\$30,000 - \$6,000) \times 49 \text{ months} / 120 \text{ months} = \$9,800]$

** $(\text{Book value } \$20,200 - \$16,000 \text{ trade-in} = \$4,200 \text{ loss})$

17. IFRS requires that a grant be recognized in income on a systematic basis that matches it with the related costs that they are intended to compensate. This can be accomplished by either (1) recording the grant as deferred grant revenue, which is recognized as income over the useful life of the asset, or (2) deducting the grant from the carrying amount of the asset acquired from the grant, which reduces depreciation expense.

18. Ordinarily such expenditures include (1) the recurring costs of servicing necessary to keep property in good operating condition, (2) cost of renewing structural parts of major plant units, and (3) costs of major overhauling operations which may or may not extend the life beyond original expectation.

The first class of expenditures represents the day-to-day service and in general is chargeable to operations as incurred. These expenditures should not be charged to the asset account.

The second class of expenditures may or may not affect the recorded cost of property. If the asset is rigidly defined as a distinct unit, the renewal of parts does not usually disturb the asset accounts; however, these costs may be capitalized and apportioned over several fiscal periods on some equitable basis. If the property is conceived in terms of structural elements subject to separate replacement, such expenditures should be charged to the plant asset accounts.

The third class of expenditures, major overhauls, is usually entered through the asset accounts because replacement of important structural elements is usually involved. Other than maintenance charges mentioned above are those expenditures which add some physical aspect not a part of the asset at the time of its original acquisition. These expenditures may be capitalized in the asset account.

19. (a) **Additions.** Additions represent entirely new units or extensions and enlargements of old units. Expenditures for additions are capitalized by charging either old or new asset accounts depending on the nature of the addition.

Questions Chapter 10 (Continued)

- (b) **Major Repairs.** Expenditures to replace parts or otherwise to restore assets to their previously efficient operating condition are regarded as repairs. To be considered a major repair, several periods must benefit from the expenditure. The cost should be handled as an addition, improvement or replacement depending on the type of major repair made.
- (c) **Improvements.** An improvement does not add to existing plant assets. Expenditures for such betterments represent increases in the quality of existing plant assets by rearrangements in plant layout or the substitution of improved components for old components so that the facilities have increased productivity, greater capacity, or longer life. The cost of improvements is accounted for by charges to the appropriate property accounts and the elimination of the cost and accumulated depreciation associated with the replaced components, if any.

Replacements. Replacements involve an “in kind” substitution of a new asset or part for an old asset or part. Accounting for major replacements requires entries to retire the old asset or part and to record the cost of the new asset or part. Minor replacements are treated as period costs.

20. The cost of installing the machinery should be capitalized, but the extra month’s wages paid to the dismissed employees should not, as this payment did not add any value to the machinery.

The extra wages should be charged off immediately as an expense; the wages could be shown as a separate item in the income statement for disclosure purposes.

21. (a) Overhead of a business that builds its own equipment. Some accountants have maintained that the equipment account should be charged only with the additional overhead caused by such construction. However, a more realistic figure for cost of equipment results if the plant asset account is charged for overhead applied on the same basis and at the same rate as used for production (see Question 4).
- (b) Cash discounts on purchases of equipment. Some accountants treat all cash discounts as financial or other revenue, regardless of whether they arise from the payment of invoices for merchandise or plant assets. Others take the position that only the net amount paid for plant assets should be capitalized on the basis that the discount represents a reduction of price and is not income. The latter position seems more logical in light of the fact that plant assets are purchased for use and not for sale and that they are written off to expense over a long period of time.
 - (c) Interest paid during construction of a building. IFRS requires that avoidable or actual interest cost, whichever is lower, be capitalized as part of the cost of acquiring an asset if a significant period of time is required to bring the asset to a condition and location necessary for its intended use.
 - (d) Profit on self-construction. This is not a proper cost of property, plant and equipment.
 - (e) Freight on equipment returned before installation, for replacement by other equipment of greater capacity. If ordering the first equipment was an error, whether due to judgment or otherwise, the freight should be regarded as a loss. However, if information became available after the order was placed which indicated purchase of the new equipment was more advantageous, the cost of the return freight may be viewed as a necessary cost of the new equipment.

Questions Chapter 10 (Continued)

- (f) Cost of moving machinery to a new location. Normally, only the cost of one installation should be capitalized for any piece of equipment. Thus the original installation and any accumulated depreciation relating thereto should be removed from the accounts and the new installation costs (i.e., cost of moving) should be capitalized. In cases where this is not possible and the cost of moving is substantial, it is capitalized and depreciated appropriately over the period during which it makes a contribution to operations.
 - (g) Cost of plywood partitions erected in the remodeling of the office. This is a part of the remodeling cost and may be capitalized as part of the remodeling itself is of such a nature that it is an addition to the building and not merely a replacement or repair.
 - (h) Replastering of a section of the building. This seems more in the nature of a repair than anything else and as such should be treated as an expense.
 - (i) Cost of a new motor for one of the trucks. This probably extends the useful life of the truck. As such it may be viewed as a major repair and charged to the Truck account. The remaining service life of the truck should be estimated and the depreciation adjusted to write off the new book value, less residual value, over the remaining useful life. A more appropriate treatment is to remove the cost of the old motor and related depreciation and add the cost of the new motor if possible.
- 22.** This approach is not correct since at the very minimum the investor should be aware that certain assets are used in the business which are not reflected in the main body of the financial statements. Either the company should keep these assets on the statement of financial position or they should be recorded at residual value and the resulting gain recognized. In either case, there should be a clear indication that these assets are fully depreciated, but are still being used in the business.
- 23.** Gains or losses on plant asset disposals should be shown in the income statement along with other items that arise from customary business activities.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 10-1

$$\$27,000 + \$1,400 + \$10,200 = \underline{\underline{\$38,600}}$$

BRIEF EXERCISE 10-2

| Expenditures | | Capitalization | Weighted-Average |
|--------------|----------------------|----------------|--------------------------|
| Date | Amount | Period | Accumulated Expenditures |
| 3/1 | HK\$1,800,000 | 10/12 | HK\$1,500,000 |
| 6/1 | 1,200,000 | 7/12 | 700,000 |
| 12/31 | 3,000,000 | 0 | 0 |
| | <u>HK\$6,000,000</u> | | <u>HK\$2,200,000</u> |

BRIEF EXERCISE 10-3

| | Principal | Interest |
|------------------|----------------------|--------------------|
| 10%, 5-year note | HK\$2,000,000 | HK\$200,000 |
| 11%, 4-year note | <u>3,500,000</u> | <u>385,000</u> |
| | <u>HK\$5,500,000</u> | <u>HK\$585,000</u> |

$$\text{Capitalization rate} = \frac{\text{HK\$585,000}}{\text{HK\$5,500,000}} = \underline{\underline{10.64\%}}$$

BRIEF EXERCISE 10-4

| Weighted-Average Accumulated Expenditures | X | Interest Rate | = | Avoidable Interest |
|----------------------------------------------|---|------------------|---|-----------------------|
| HK\$1,000,000 | | 12% | | HK\$120,000 |
| <u>1,200,000</u> | | 10.64% | | <u>127,680</u> |
| <u>HK\$2,200,000</u> | | | | <u>HK\$247,680</u> |

BRIEF EXERCISE 10-5

| | | |
|--------------------------------|--------|--------|
| Truck (£80,000 X .68301) | 54,641 | |
| Notes Payable | | 54,641 |

BRIEF EXERCISE 10-6

| | <u>Fair Value</u> | <u>% of Total</u> | | <u>Cost</u> | <u>Recorded Amount</u> |
|-----------|-------------------|-------------------|---|-------------|------------------------|
| Land | \$ 60,000 | 60/360 | X | \$315,000 | \$ 52,500 |
| Building | 220,000 | 220/360 | X | \$315,000 | 192,500 |
| Equipment | <u>80,000</u> | 80/360 | X | \$315,000 | <u>70,000</u> |
| | <u>\$360,000</u> | | | | <u>\$315,000</u> |

BRIEF EXERCISE 10-7

| | | |
|---------------------------------------------|--------|--------|
| Land (2,000 X \$40) | 80,000 | |
| Share Capital—Ordinary (2,000 X \$10) | | 20,000 |
| Share Premium—Ordinary | | 60,000 |

BRIEF EXERCISE 10-8

| | | |
|---------------------------------|--------|--------|
| Computer | 3,300 | |
| Accumulated Depreciation | 18,000 | |
| Truck | | 20,000 |
| Cash | | 500 |
| Gain on Disposal of Truck | | 800 |

BRIEF EXERCISE 10-9

| | | |
|-------------------------------|--------|--------|
| Computer (£3,300 – £800)..... | 2,500 | |
| Accumulated Depreciation..... | 18,000 | |
| Truck..... | | 20,000 |
| Cash..... | | 500 |

BRIEF EXERCISE 10-10

| | | |
|----------------------------------|-------|-------|
| Office Equipment | 5,000 | |
| Accumulated Depreciation..... | 3,000 | |
| Loss on Disposal of Machine..... | 4,000 | |
| Machine | | 9,000 |
| Cash..... | | 3,000 |

BRIEF EXERCISE 10-11

| | | |
|--------------------------------|--------|--------|
| Truck | 37,000 | |
| Accumulated Depreciation..... | 27,000 | |
| Loss on Disposal of Truck..... | 2,000 | |
| Truck..... | | 30,000 |
| Cash..... | | 36,000 |

BRIEF EXERCISE 10-12

| | | |
|--------------------------------|--------|--------|
| Truck | 35,000 | |
| Accumulated Depreciation..... | 17,000 | |
| Loss on Disposal of Truck..... | 1,000 | |
| Truck..... | | 20,000 |
| Cash..... | | 33,000 |

BRIEF EXERCISE 10-13

Costs (a) and (c) are expensed when incurred.

BRIEF EXERCISE 10-14

1. Deferred revenue approach:

| | | |
|------------------------------|-----------|-----------|
| Cash | 2,000,000 | |
| Deferred Grant Revenue | | 2,000,000 |

2. Reduction of asset approach:

| | | |
|--------------------------|-----------|-----------|
| Cash | 2,000,000 | |
| Research Equipment | | 2,000,000 |

BRIEF EXERCISE 10-15

| | | | |
|-----|----------------------------------------------------|--------|--------|
| (a) | Depreciation Expense (\$2,400 X 8/12) | 1,600 | |
| | Accumulated Depreciation | | 1,600 |
| (b) | Cash | 10,500 | |
| | Accumulated Depreciation (\$8,400 + \$1,600) | 10,000 | |
| | Machinery | | 20,000 |
| | Gain on Disposal of Machinery | | 500 |

BRIEF EXERCISE 10-16

| | | | |
|-----|----------------------------------------------------|--------|--------|
| (a) | Depreciation Expense (\$2,400 X 8/12) | 1,600 | |
| | Accumulated Depreciation | | 1,600 |
| (b) | Cash | 5,200 | |
| | Loss on Disposal of Machinery | 4,800 | |
| | Accumulated Depreciation (\$8,400 + \$1,600) | 10,000 | |
| | Machinery | | 20,000 |

SOLUTIONS TO EXERCISES

EXERCISE 10-1 (15–20 minutes)

| Item | Land | Land Improvements | Building | Other Accounts |
|------|----------|-------------------|----------|--------------------------|
| (a) | | | | (€275,000) Notes Payable |
| (b) | | | €275,000 | |
| (c) | € 10,000 | | | |
| (d) | 7,000 | | | |
| (e) | | | 6,000 | |
| (f) | | | (1,000) | |
| (g) | | | 25,000 | |
| (h) | 250,000 | | | |
| (i) | 9,000 | | | |
| (j) | | \$ 4,000 | | |
| (k) | 11,000 | | | |
| (l) | (5,000) | | | |
| (m) | | | 13,000 | |
| (n) | | 19,000 | | |
| (o) | 14,000 | | | |
| (p) | | | 3,000 | |

EXERCISE 10-2 (10–15 minutes)

The allocation of costs would be as follows:

| | Land | Building |
|---------------------------|------------------|--------------------|
| Land | \$450,000 | |
| Razing costs | 42,000 | |
| Salvage | (6,300) | |
| Legal fees | 1,850 | |
| Survey | | \$ 2,200 |
| Plans | | 65,000 |
| Title insurance | 1,500 | |
| Liability insurance | | 900 |
| Construction | | 2,740,000 |
| Interest | | 170,000 |
| | <u>\$489,050</u> | <u>\$2,978,100</u> |

EXERCISE 10-3 (10–15 minutes)

| | | | |
|----|------------------------------------|---------|--------|
| 1. | Truck #1 | 13,900 | |
| | Cash | | 13,900 |
| 2. | Truck #2 | 18,364* | |
| | Cash | | 2,000 |
| | Notes Payable | | 16,364 |
| | *PV of \$18,000 @ 10% for 1 year = | | |
| | \$18,000 X .90909 = \$16,364 | | |
| | \$16,364 + \$2,000 = \$18,364 | | |
| 3. | Truck #3 | 15,200 | |
| | Cost of Goods Sold..... | 12,000 | |
| | Inventory | | 12,000 |
| | Sales..... | | 15,200 |

[Note to instructor: The selling (retail) price of the computer system appears to be a better gauge of the fair value of the consideration given than is the list price of the truck as a gauge of the fair value of the consideration received (truck). Vehicles are very often sold at a price below the list price.]

| | | | |
|----|----------------------------------------|--------|--------|
| 4. | Truck #4 | 13,000 | |
| | Share Capital—Ordinary..... | | 10,000 |
| | Share Premium—Ordinary | | |
| | (1,000 shares X \$13 = \$13,000; | | |
| | \$13,000 less \$10,000 par value)..... | | 3,000 |

EXERCISE 10-4 (20–25 minutes)

Purchase

| | |
|--------------------------------------------------------------|-----------------|
| Cash paid for equipment, including sales tax of €5,000 | €105,000 |
| Freight and insurance while in transit | 2,000 |
| Cost of moving equipment into place at factory | 3,100 |
| Wage cost for technicians to test equipment..... | 6,000 |
| Special plumbing fixtures required for new equipment..... | <u>8,000</u> |
| Total cost | <u>€124,100</u> |

The insurance premium paid during the first year of operation on this equipment should be reported as insurance expense, and not be capitalized. Repair cost incurred in the first year of operations related to this equipment should be reported as repair and maintenance expense, and not be capitalized. Both these costs relate to periods subsequent to purchase.

Construction

| | |
|-----------------------------------------------------|-----------------|
| Material and purchased parts (€200,000 X .99) | €198,000 |
| Labor costs | 190,000 |
| Overhead costs..... | 50,000 |
| Cost of installing equipment..... | <u>4,400</u> |
| Total cost | <u>€442,400</u> |

Note that the cost of material and purchased parts is reduced by the amount of cash discount not taken because the equipment should be reported at its cash equivalent price. The imputed interest on funds used during construction related to stock financing should not be capitalized or expensed. This item is an opportunity cost that is not reported.

Profit on self-construction should not be reported. Profit should only be reported when the asset is sold.

EXERCISE 10-5 (20–25 minutes)

| | Land | Buildings | M & E | Other | |
|-----------------------------------------------------|------------------|------------------|-----------------|----------------|--------------------------------|
| Abstract fees | \$ 520 | | | | |
| Architect's fees | | \$ 3,170 | | | |
| Cash paid for land and old building | 92,000 | | | | |
| Removal of old building (\$20,000 – \$5,500) | 14,500 | | | | |
| Interest on loans during construction | | 7,400 | | | |
| Excavation before construction | | 19,000 | | | |
| Machinery purchased | | | \$63,700 | \$1,300 | —Misc. expense (Discount Lost) |
| Freight on machinery | | | 1,340 | | |
| Storage charges caused by noncompletion of building | | | | 2,180 | —Misc. expense (Loss) |
| New building | | 485,000 | | | |
| Assessment by city | 1,600 | | | | |
| Hauling charges—machinery | | | | 620 | —Misc. expense (Loss) |
| Installation—machinery | | | 2,000 | | |
| Landscaping | 5,400 | | | | |
| | <u>\$114,020</u> | <u>\$514,570</u> | <u>\$67,040</u> | <u>\$4,100</u> | |

EXERCISE 10-6 (15–20 minutes)

| | | | |
|----|-----------------|---------|---------|
| 1. | Land | 127,500 | |
| | Buildings | 297,500 | |
| | Equipment..... | 255,000 | |
| | Cash | | 680,000 |

$$\$680,000 \times \frac{\$150,000}{\$800,000} = \$127,500 \quad \text{Land}$$

$$\$680,000 \times \frac{\$350,000}{\$800,000} = \$297,500 \quad \text{Buildings}$$

$$\$680,000 \times \frac{\$300,000}{\$800,000} = \$255,000 \quad \text{Equipment}$$

EXERCISE 10-6 (Continued)

| | | | |
|----|----------------------------------------|---------|---------|
| 2. | Store Equipment..... | 25,000 | |
| | Cash | | 2,000 |
| | Note Payable | | 23,000 |
| 3. | Office Equipment | 19,600 | |
| | Accounts Payable (\$20,000 X .98)..... | | 19,600 |
| 4. | Building | 270,000 | |
| | Deferred Grant Revenue | | 270,000 |
| 5. | Warehouse | 600,000 | |
| | Cash..... | | 600,000 |

EXERCISE 10-7 (20–25 minutes)

(a) Avoidable Interest

| Weighted-Average Accumulated Expenditures | X | Interest Rate | = | Avoidable Interest |
|----------------------------------------------|---|---------------|---|--------------------|
| €2,000,000 | | 12% | | €240,000 |
| <u>1,800,000</u> | | 10.38% | | <u>186,840</u> |
| <u>€3,800,000</u> | | | | <u>€426,840</u> |

| Capitalization rate computation | Principal | Interest |
|---------------------------------|-------------------|-----------------|
| 10% short-term loan | €1,600,000 | €160,000 |
| 11% long-term loan | <u>1,000,000</u> | <u>110,000</u> |
| | <u>€2,600,000</u> | <u>€270,000</u> |

$$\frac{\text{Total Interest}}{\text{Total Principal}} = \frac{€270,000}{€2,600,000} = 10.38\%$$

EXERCISE 10-7 (Continued)

| | <u>Actual Interest</u> | |
|-----------------------|------------------------|------------------------|
| (b) Construction loan | €2,000,000 X 12% = | €240,000 |
| Short-term loan | €1,600,000 X 10% = | 160,000 |
| Long-term loan | €1,000,000 X 11% = | 110,000 |
| | Total | <u>€510,000</u> |

Because avoidable interest is lower than actual interest, use avoidable interest.

| | |
|----------------------|--------------------------|
| Cost | €5,200,000 |
| Interest capitalized | <u>426,840</u> |
| Total cost | <u>€5,626,840</u> |

$$\text{Depreciation Expense} = \frac{\text{€5,626,840} - \text{€300,000}}{30 \text{ years}} = \text{€177,561}$$

EXERCISE 10-8 (20–25 minutes)

(a) Computation of Weighted-Average Accumulated Expenditures

| <u>Expenditures</u> | | | <u>Capitalization</u> | | <u>Weighted-Average</u> |
|---------------------|---------------------------|---|-----------------------|---|---------------------------|
| Date | Amount | X | Period | = | Accumulated Expenditures |
| March 1 | \$ 360,000 | | 10/12 | | \$ 300,000 |
| June 1 | 600,000 | | 7/12 | | 350,000 |
| July 1 | 1,500,000 | | 6/12 | | 750,000 |
| December 1 | <u>1,200,000</u> | | 1/12 | | <u>100,000</u> |
| | <u>\$3,660,000</u> | | | | <u>\$1,500,000</u> |

Computation of Avoidable Interest

| <u>Weighted-Average</u> | | <u>Interest Rate</u> | | <u>Avoidable Interest</u> |
|---------------------------------|---|-------------------------|---|---------------------------|
| <u>Accumulated Expenditures</u> | X | | = | |
| \$1,500,000 | | 12% (Construction loan) | | <u>\$180,000</u> |

Computation of Actual Interest

| | |
|-------------------|-------------------------|
| Actual interest | |
| \$3,000,000 X 12% | \$360,000 |
| \$4,000,000 X 11% | 440,000 |
| \$1,600,000 X 10% | <u>160,000</u> |
| | <u>\$960,000</u> |

Note: Use avoidable interest for capitalization purposes because it is lower than actual interest. The \$180,000 of avoidable interest is reduced by the \$49,000 of interest revenue earned on specific borrowing.

EXERCISE 10-8 (Continued)

| | | | |
|-----|-----------------------------------------------|---------|---------|
| (b) | Building | 131,000 | |
| | Interest Expense* | 829,000 | |
| | Cash (\$360,000 + \$440,000 + \$160,000)..... | | 960,000 |

| | |
|-------------------------------------------------|-------------------|
| *Actual interest for year | \$ 960,000 |
| Less: Amount capitalized (\$180,000 – \$49,000) | <u>(131,000)</u> |
| Interest expense debit | <u>\$ 829,000</u> |

EXERCISE 10-9 (20–25 minutes)

(a) Computation of Weighted-Average Accumulated Expenditures

| <u>Expenditures</u> | | X | <u>Capitalization</u> | = | <u>Weighted-Average</u> |
|---------------------|---------------|---|-----------------------|---|---------------------------------|
| <u>Date</u> | <u>Amount</u> | | <u>Period</u> | | <u>Accumulated Expenditures</u> |
| July 31 | \$300,000 | | 3/12 | | \$75,000 |
| November 1 | 100,000 | | 0 | | <u>0</u> |
| | | | | | <u>\$75,000</u> |

Interest revenue \$100,000 X 10% X 3/12 = \$2,500

Avoidable interest

| <u>Weighted-Average</u> | X | <u>Interest Rate</u> | = | <u>Avoidable Interest</u> |
|---------------------------------|---|----------------------|---|---------------------------|
| <u>Accumulated Expenditures</u> | | | | |
| \$75,000 | | 12% | | \$9,000 |

Actual Interest

| | |
|--------------------------|-----------------|
| \$400,000 X 12% X 5/12 = | \$20,000 |
| \$30,000 X 8% = | <u>2,400</u> |
| | <u>\$22,400</u> |

Interest capitalized \$ 6,500 (\$9,000 – \$2,500)

EXERCISE 10-9 (Continued)

| | | | | | |
|-----|-------|------|-------------------------------|---------|---------|
| (b) | (1) | 7/31 | Cash | 400,000 | |
| | | | Note Payable..... | | 400,000 |
| | | | Machine..... | 300,000 | |
| | | | Trading Securities | 100,000 | |
| | | | Cash..... | | 400,000 |
| (2) | 11/1 | | Cash | 102,500 | |
| | | | Interest Revenue | | |
| | | | (\$100,000 X 10% X 3/12)..... | | 2,500 |
| | | | Trading Securities..... | | 100,000 |
| | | | Machine..... | 100,000 | |
| | | | Cash..... | | 100,000 |
| (3) | 12/31 | | Machine..... | 6,500 | |
| | | | Interest Expense | | |
| | | | (\$22,400 – \$6,500)..... | 15,900 | |
| | | | Cash (\$30,000 X 8%)..... | | 2,400 |
| | | | Interest Payable | | |
| | | | (\$400,000 X 12% X 5/12)..... | | 20,000 |

EXERCISE 10-10 (20–25 minutes)

Situation 1. \$40,000—The requirement is the amount Columbia should report as capitalized interest at 12/31/10. The amount of interest eligible for capitalization is

Weighted-Average Accumulated Expenditures X Interest Rate = Avoidable Interest

Since Columbia has outstanding debt incurred specifically for the construction project, in an amount greater than the weighted-average accumulated expenditures of \$900,000, the interest rate of 10% is used for capitalization purposes. Therefore, the avoidable interest is \$40,000, which is less than the actual interest, computed as interest on specific borrowing less investment income on those funds:

(\$900,000 X .10 = \$90,000) – \$50,000 investment income

EXERCISE 10-10 (Continued)

Situation II. \$39,000—The requirement is total interest costs to be capitalized. IFRS identifies assets which qualify for interest capitalization: assets constructed for an enterprise's own use and assets intended for sale or lease that are produced as discrete projects. Inventories that are routinely produced in large quantities on a repetitive basis do not qualify for interest capitalization. Therefore, only \$30,000 and \$9,000 are capitalized.

Situation III. \$180,000—The requirement is to determine the amount of interest to be capitalized on the financial statements at April 30, 2011. The IFRS requirements are met: (1) expenditures for the asset have been made, (2) activities that are necessary to get the asset ready for its intended use are in progress, and (3) interest cost is being incurred. The amount to be capitalized is determined by applying an interest rate to the weighted-average amount of accumulated expenditures for the asset during the period. Because the \$6,000,000 of expenditures incurred for the year ended April 30, 2011, were incurred evenly throughout the year, the weighted-average amount of expenditures for the year is \$3,000,000, ($\$6,000,000 \div 2$). Therefore, the amount of interest to be capitalized is \$180,000 [$(\$3,000,000 \times 11\%) - \$150,000$ (interest earned)]. In any period the total amount of interest cost to be capitalized shall not exceed the total amount of interest cost incurred by the enterprise. (Total interest is \$1,100,000).

EXERCISE 10-11 (10–15 minutes)

| | | | |
|-----|--------------------------------------------------------------------------|---------------------------------|--------|
| (a) | Equipment..... | 15,000 | |
| | Accounts Payable..... | | 15,000 |
| | Accounts Payable..... | 15,000 | |
| | Equipment (W 15,000 X .02)..... | | 300 |
| | Cash | | 14,700 |
| (b) | Equipment (new)..... | 14,600* | |
| | Loss on Disposal of Equipment | 1,600** | |
| | Accumulated Depreciation (W 8,000 – W 6,000)..... | 6,000 | |
| | Accounts Payable..... | | 14,200 |
| | Equipment (old)..... | | 8,000 |
| | | | |
| | **Cost | W 8,000 | |
| | Accumulated depreciation | <u>6,000</u> | |
| | Book value | 2,000 | |
| | Fair market value | <u>400</u> | |
| | Loss | <u><u>W1,600</u></u> | |
| | *Cost (W14,200 + W400) | W 14,600 | |
| | Accounts Payable..... | 14,200 | |
| | Cash | | 14,200 |
| (c) | Equipment (W 16,200 X .91743)..... | 14,862 | |
| | Notes Payable | | 14,862 |
| | Interest Expense | 1,338 | |
| | Notes Payable | 14,862 | |
| | Cash | | 16,200 |

EXERCISE 10-12 (15–20 minutes)

| | | | |
|-----|---------------------------------------------|---------|---------|
| (a) | Land..... | 81,000 | |
| | Grant Revenue..... | | 81,000 |
| (b) | Land..... | 180,000 | |
| | Buildings..... | 630,000 | |
| | Share Capital—Ordinary (\$50 X 14,000)..... | | 700,000 |
| | Share Premium—Ordinary*..... | | 110,000 |

*Since the market value of the shares is not determinable, the market value of the property is used as the basis for recording the asset and issuance of the shares.

| | | | |
|-----|-----------------------|--------|---------|
| (c) | Machinery | 41,700 | |
| | Materials | | 12,500 |
| | Direct Labor..... | | 16,000 |
| | Factory Overhead..... | | 13,200* |

| | | |
|-------------------------|------------------|-----------------|
| *Fixed overhead applied | (60% X \$16,000) | \$ 9,600 |
| Additional overhead | | 2,700 |
| Factory supplies used | | 900 |
| | | <u>\$13,200</u> |

EXERCISE 10-13 (20–25 minutes)

| | | | |
|----|-------------------------------|-----------|-----------|
| 1. | Land..... | 375,000 | |
| | Building | 1,125,000 | |
| | Machinery and Equipment | 750,000 | |
| | Share Capital—Ordinary | | |
| | (12,500 X \$100)..... | | 1,250,000 |
| | Share Premium—Ordinary | | 1,000,000 |
| | (\$2,250,000 – \$1,250,000) | | |

The cost of the property, plant and equipment is \$2,250,000 (12,500 X \$180). This cost is allocated based on appraised values as follows:

| | | |
|-----------------------|-----------------------------------|-----------------------------|
| Land | $\frac{\$400,000}{\$2,400,000}$ | X \$2,250,000 = \$375,000 |
| Building | $\frac{\$1,200,000}{\$2,400,000}$ | X \$2,250,000 = \$1,125,000 |
| Machinery & Equipment | $\frac{\$800,000}{\$2,400,000}$ | X \$2,250,000 = \$750,000 |

EXERCISE 10-13 (Continued)

| | | | |
|----|----------------------------------------------------------|---------|---------|
| 2. | Buildings (\$105,000 plus \$161,000) | 266,000 | |
| | Machinery and Equipment | 135,000 | |
| | Land Improvements | 122,000 | |
| | Land | 18,000 | |
| | Cash | | 541,000 |
| 3. | Machinery and Equipment | 284,900 | |
| | Cash | | 284,900 |
| | (\$10,500 plus \$274,400, which is 98% of \$280,000.) | | |

EXERCISE 10-14 (15–20 minutes)

| | | | |
|-----|---------------------------------------------------------------------------------|----------|---------|
| (a) | Equipment | 648,860* | |
| | Notes Payable | | 648,860 |
| | *PV of \$180,000 annuity @ 12% for 5 years (\$180,000 X 3.60478) = \$648,860 | | |
| (b) | Interest Expense | 77,863* | |
| | Notes Payable | 102,137 | |
| | Cash | | 180,000 |
| | *(12% X \$648,860) | | |

| Year | Note Payment | 12% Interest | Reduction of Principal | Balance |
|----------|--------------|--------------|---------------------------|-----------|
| 1/2/10 | | | | \$648,860 |
| 12/31/10 | \$180,000 | \$77,863 | \$102,137 | 546,723 |
| 12/31/11 | 180,000 | 65,607 | 114,393 | 432,330 |

EXERCISE 10-14 (Continued)

| | | | |
|-----|-------------------------------|---------|---------|
| (c) | Interest Expense..... | 65,607 | |
| | Notes Payable | 114,393 | |
| | Cash | | 180,000 |
| (d) | Depreciation Expense | 64,886* | |
| | Accumulated Depreciation..... | | 64,886 |
| | *($\$648,860 \div 10$) | | |

EXERCISE 10-15 (15–20 minutes)

| | | | |
|-----|--------------------|-------------|-----------|
| (a) | Equipment | 105,815.80* | |
| | Cash..... | | 30,000.00 |
| | Notes Payable..... | | 75,815.80 |

*PV of \$20,000 annuity @ 10% for

| | |
|---------------------------------------|---------------------|
| 5 years ($\$20,000 \times 3.79079$) | \$ 75,815.80 |
| Down payment | <u>30,000.00</u> |
| Capitalized value of equipment | <u>\$105,815.80</u> |

| | | | |
|-----|--------------------------------------|-----------|-----------|
| (b) | Notes Payable | 12,418.42 | |
| | Interest Expense (see schedule)..... | 7,581.58 | |
| | Cash..... | | 20,000.00 |

| Year | Note Payment | 10% Interest | Reduction of Principal | Balance |
|----------|--------------|--------------|---------------------------|-------------|
| 12/31/09 | | | | \$75,815.80 |
| 12/31/10 | \$20,000.00 | \$7,581.58 | \$12,418.42 | 63,397.38 |
| 12/31/11 | 20,000.00 | 6,339.74 | 13,660.26 | 49,737.12 |

EXERCISE 10-15 (Continued)

| | | | |
|-----|------------------------|-----------|-----------|
| (c) | Notes Payable | 13,660.26 | |
| | Interest Expense | 6,339.74 | |
| | Cash | | 20,000.00 |

EXERCISE 10-16 (25–35 minutes)

LOGAN INDUSTRIES
Acquisition of Assets 1 and 2

Use appraised values to break-out the lump-sum purchase

| Description | Appraisal | Percentage | Lump-Sum | Value on Books |
|------------------|------------------|------------|-----------|----------------|
| Machinery | \$ 90,000 | 90/120 | \$104,000 | \$78,000 |
| Office Equipment | 30,000 | 30/120 | 104,000 | 26,000 |
| | <u>\$120,000</u> | | | |

| | | |
|-----------------------|--------|---------|
| Machinery..... | 78,000 | |
| Office Equipment..... | 26,000 | |
| Cash | | 104,000 |

Acquisition of Asset 3

Use the cash price as a basis for recording the asset with a discount recorded on the note.

| | | |
|---------------------|--------|--------|
| Machinery..... | 35,900 | |
| Cash | | 10,000 |
| Notes Payable | | 25,900 |

EXERCISE 10-16 (Continued)

Acquisition of Asset 4

Since the exchange lacks commercial substance, the gain of \$16,000 is not recognized. Instead the gain of \$16,000 (\$80,000 – \$64,000) is used to reduce the basis of the asset acquired.

| | | |
|--------------------------------------|--------|---------|
| Machinery (\$70,000 – \$16,000)..... | 54,000 | |
| Accumulated Depreciation..... | 36,000 | |
| Cash..... | 10,000 | |
| Machinery..... | | 100,000 |

Acquisition of Asset 5

In this case the Office Equipment should be placed on Logan's books at the market value of the shares. The difference between the shares's par value and their fair value (based on market price) should be credited to Share Premium.

| | | |
|----------------------------------------------|-------|------|
| Office Equipment (100 X \$11 per share)..... | 1,100 | |
| Share Capital—Ordinary | | 800 |
| Share Premium—Ordinary | | 300* |

*($\$11 - \8) X 100 Shares.

EXERCISE 10-16 (Continued)

Schedule of Weighted-Average Accumulated Expenditures

| Date | Amount | Current Year Capitalization Period | Weighted-Average Accumulated Expenditures |
|-------------|--------------------|------------------------------------------|-------------------------------------------------|
| February 1 | \$ 180,000 | 9/12 | \$135,000 |
| February 1 | 120,000 | 9/12 | 90,000 |
| June 1 | 360,000 | 5/12 | 150,000 |
| September 1 | 480,000 | 2/12 | 80,000 |
| November 1 | 100,000 | 0/12 | 0 |
| | <u>\$1,240,000</u> | | <u>\$455,000</u> |

Note that the capitalization is only 9 months in this exercise.

Avoidable Interest

| Weighted-Average Accumulated Expenditures | | Interest Rate | | Avoidable Interest |
|----------------------------------------------|---|---------------|---|--------------------|
| \$455,000 | X | 12% | = | \$54,600 |

Since the weighted-average expenditures are less than the amount of specific borrowing, the specific borrowing rate is used.

Land Cost \$ 180,000
Building Cost \$1,114,600 (\$1,060,000 + \$54,600)

| | | |
|------------------------|-----------|-----------|
| Land | 180,000 | |
| Building..... | 1,114,600 | |
| Cash | | 1,240,000 |
| Interest Expense | | 54,600 |

EXERCISE 10-17 (10–15 minutes)

Alatorre Corporation

| | | |
|-----------------------------------|-----|-----|
| Machine (€320 + €85) | 405 | |
| Accumulated Depreciation | 140 | |
| Loss on Disposal of Machine | 65* | |
| Machine | | 290 |
| Cash | | 320 |

*Computation of loss:

| | |
|-----------------------------------------|-------------|
| Book value of old machine (€290 – €140) | €150 |
| Fair value of old machine | <u>(85)</u> |
| Loss on disposal | <u>€ 65</u> |

Mills Business Machine Company

| | | |
|--------------------------|-----|-----|
| Cash | 320 | |
| Inventory | 85 | |
| Cost of Goods Sold | 270 | |
| Sales | | 405 |
| Inventory | | 270 |

EXERCISE 10-18 (20–25 minutes)

(a) Exchange has commercial substance:

| | | |
|-------------------------------------------------------------------------------------|--------------|--------|
| Depreciation Expense | 800 | |
| Accumulated Depreciation—Melter | | 800 |
| (\$12,700 – \$700 = \$12,000; \$12,000 ÷ 5 = \$2,400; \$2,400 X 4/12 = \$800) | | |
| Melter | 15,200** | |
| Accumulated Depreciation—Melter | 8,000 | |
| Gain on Disposal of Plant Assets | | 500* |
| Melter | | 12,700 |
| Cash | | 10,000 |

| | |
|-----------------------------------------------|----------------|
| *Cost of old asset | \$12,700 |
| Accumulated depreciation (\$7,200 + \$800) | <u>(8,000)</u> |
| Book value | 4,700 |
| Fair value of old asset | <u>(5,200)</u> |
| Gain (on disposal of plant asset) | <u>\$ 500</u> |

| | |
|--------------------------|-----------------|
| **Cash paid | \$10,000 |
| Fair value of old melter | <u>5,200</u> |
| Cost of new melter | <u>\$15,200</u> |

EXERCISE 10-18 (Continued)

(b) Exchange lacks commercial substance:

| | | |
|---------------------------------------|----------|--------|
| Depreciation Expense | 800 | |
| Accumulated Depreciation—Melter | | 800 |
| Melter..... | 14,700** | |
| Accumulated Depreciation—Melter | 8,000 | |
| Melter | | 12,700 |
| Cash | | 10,000 |

| | |
|------------------------------------|-----------------|
| **Cash paid | \$10,000 |
| Fair value of old asset | 5,200 |
| —Gain deferred (\$5,200 – \$4,700) | <u>500</u> |
| Cost of new asset | <u>\$14,700</u> |

EXERCISE 10-19 (15–20 minutes)

(a) Exchange lacks commercial substance.

Santana Company:

| | | |
|-------------------------------|--------|--------|
| Equipment | 11,000 | |
| Accumulated Depreciation..... | 19,000 | |
| Equipment..... | | 28,000 |
| Cash | | 2,000 |

Valuation of equipment

| | |
|-------------------------------|-----------------|
| Book value of equipment given | \$ 9,000 |
| Cash paid | <u>2,000</u> |
| New equipment | <u>\$11,000</u> |

EXERCISE 10-19 (Continued)

OR

| | |
|----------------------------|------------------------|
| Fair value received | \$15,500 |
| Less: Gain deferred | <u>4,500*</u> |
| New equipment | <u>\$11,000</u> |

| | |
|-------------------------------------|------------------------|
| *Fair value of old equipment | \$13,500 |
| Book value of old equipment | <u>(9,000)</u> |
| Gain on disposal | <u>\$ 4,500</u> |

Delaware Company:

| | | |
|-------------------------------------------------|---------------|---------------|
| Cash | 2,000 | |
| Equipment..... | 13,500 | |
| Accumulated Depreciation—Equipment | 10,000 | |
| Loss on Disposal of Plant Assets..... | 2,500* | |
| Equipment | | 28,000 |

***Computation of loss:**

| | |
|--------------------------------------|------------------------|
| Book value of old equipment | \$18,000 |
| Fair value of old equipment | <u>15,500</u> |
| Loss on disposal of equipment | <u>\$ 2,500</u> |

EXERCISE 10-19 (Continued)

(b) Exchange has commercial substance

| <u>Santana Company</u> | | |
|------------------------------------------|---------|---------|
| Equipment | 15,500* | |
| Accumulated Depreciation—Equipment | 19,000 | |
| Equipment..... | | 28,000 |
| Cash | | 2,000 |
| Gain on Disposal of Equipment..... | | 4,500** |

*Cost of new equipment:

| | |
|-----------------------------|-----------------|
| Cash paid | \$ 2,000 |
| Fair value of old equipment | <u>13,500</u> |
| Cost of new equipment | <u>\$15,500</u> |

**Computation of gain on disposal of equipment:

| | |
|-------------------------------|-----------------|
| Fair value of old equipment | \$13,500 |
| Book value of old equipment | |
| (\$28,000 – \$19,000) | <u>9,000</u> |
| Gain on disposal of equipment | <u>\$ 4,500</u> |

| <u>Delaware Company</u> | | |
|-----------------------------------------------|---------|--------|
| Cash..... | 2,000 | |
| Equipment | 13,500* | |
| Accumulated Depreciation—Equipment (Old)..... | 10,000 | |
| Loss on Disposal of Equipment..... | 2,500** | |
| Equipment..... | | 28,000 |

*Cost of new equipment:

| | |
|-------------------------|-----------------|
| Fair value of equipment | \$15,500 |
| Less: Cash received | <u>2,000</u> |
| Cost of new equipment | <u>\$13,500</u> |

**Computation of loss on disposal of equipment:

| | |
|-------------------------------|-----------------|
| Book value of old equipment | |
| (\$28,000 – \$10,000) | \$18,000 |
| Fair value of equipment (Old) | <u>15,500</u> |
| Loss on disposal of equipment | <u>\$ 2,500</u> |

EXERCISE 10-20 (15–20 minutes)

(a) Exchange has commercial substance

| | | |
|------------------------------------------|---------|--------|
| Automatic Equipment | 53,900 | |
| Accumulated Depreciation—Equipment | 20,000* | |
| Gain on Disposal of Equipment | | 3,800 |
| Equipment | | 62,000 |
| Cash (\$7,000 + \$1,100) | | 8,100 |

*\$62,000 – \$42,000.

Valuation of equipment

| | |
|--------------------------------|-----------------|
| Cash | \$ 7,000 |
| Installation cost | 1,100 |
| Market value of used equipment | <u>45,800</u> |
| Cost of new equipment | <u>\$53,900</u> |

Computation of gain

| | |
|-------------------------------|-----------------|
| Cost of old asset | \$62,000 |
| Accumulated depreciation | <u>20,000</u> |
| Book value | 42,000 |
| Market value of old asset | <u>45,800</u> |
| Gain on disposal of equipment | <u>\$ 3,800</u> |

(b) Fair value not determinable

| | | |
|------------------------------------------|---------|--------|
| Automatic Equipment | 50,100* | |
| Accumulated Depreciation—Equipment | 20,000 | |
| Equipment | | 62,000 |
| Cash | | 8,100 |

*Basis of new equipment

| | |
|------------------------------------------|-----------------|
| Book value of old equipment | \$42,000 |
| Cash paid (including installation costs) | <u>8,100</u> |
| Basis of new equipment | <u>\$50,100</u> |

EXERCISE 10-21 (15–20 minutes)

- (a) 1. Carrying amount = £320,000 (£400,000 – £80,000)
2. Depreciation expense = £80,000 (£400,000 ÷ 5 yrs.)
3. Grant revenue = 0
- (b) 1. Deferred grant revenue balance = £80,000 (£100,000 – £20,000)
2. Depreciation expense = £100,000 (£500,000 ÷ 5 yrs.)
3. Grant revenue = £20,000

EXERCISE 10-22 (10–15 minutes)

(a) January 2, 2010

| | | |
|---------------------------------|-----------|-----------|
| Cash (€5,000,000 X .74726)..... | 3,736,300 | |
| Note Payable | | 3,736,300 |
| Cash..... | 1,263,700 | |
| Deferred Grant Revenue..... | | 1,263,700 |

- (b) Interest expense – 2010 = €3,736,300 X .06 = €224,178
- Grant revenue – 2010 = €224,178

EXERCISE 10-23 (20–25 minutes)

- (a) Any addition to plant assets is capitalized because a new asset has been created. This addition increases the service potential of the plant.**
- (b) Expenditures that do not increase the service benefits of the asset are expensed. Painting costs are considered ordinary repairs because they maintain the existing condition of the asset or restore it to normal operating efficiency.**
- (c) The approach to follow is to remove the book value of the old roof and substitute the cost of the new roof. It is assumed that the expenditure increases the future service potential of the asset.**
- (d) Conceptually, the book value of the old electrical system should be removed. However, practically it is often difficult if not impossible to determine this amount. In this case, one of two approaches is followed. One approach is to capitalize the replacement on the theory that sufficient depreciation was taken on the old system to reduce the carrying amount to almost zero. A second approach is to debit Accumulated Depreciation on the theory that the replacement extends the useful life of the asset and thereby recaptures some or all of the past depreciation. In our present situation, the problem specifically states that the useful life is not extended and therefore debiting Accumulated Depreciation is inappropriate. Thus, this expenditure should be added to the cost of the plant facility.**
- (e) See discussion in (d) above. In this case, because the useful life of the asset has increased, a debit to Accumulated Depreciation would appear to be the most appropriate.**

EXERCISE 10-24 (15–20 minutes)

| | | | |
|-------------|-------------------------------------------------|-----------------|----------------|
| 1/30 | Accumulated Depreciation—Buildings | 95,200* | |
| | Loss on Disposal of Plant Assets | 21,900** | |
| | Buildings..... | | 112,000 |
| | Cash..... | | 5,100 |

***(5% X \$112,000 = \$5,600; \$5,600 X 17 = \$95,200)**

****(\$112,000 – \$95,200) + \$5,100**

| | | | |
|-------------|------------------------------------------------|----------------|---------------|
| 3/10 | Cash (\$2,900 – \$300)..... | 2,600 | |
| | Accumulated Depreciation—Machinery..... | 11,200* | |
| | Loss on Disposal of Plant Assets | 2,200** | |
| | Machinery | | 16,000 |

***(70% X \$16,000 = \$11,200)**

****(\$16,000 – \$11,200) + \$300 – \$2,900**

| | | | |
|-------------|------------------------|--------------|--------------|
| 3/20 | Machinery | 3,000 | |
| | Cash..... | | 3,000 |

| | | | |
|-------------|------------------------------------------------|----------------|--------------|
| 5/18 | Machinery | 5,500 | |
| | Accumulated Depreciation—Machinery..... | 2,400* | |
| | Loss on Disposal of Plant Assets | 1,600** | |
| | Machinery | | 4,000 |
| | Cash..... | | 5,500 |

***(60% X \$4,000 = \$2,400)**

****(\$4,000 – \$2,400)**

| | | | |
|-------------|-----------------------------------------------------|--------------|--------------|
| 6/23 | Building Maintenance and Repairs Expense.... | 6,900 | |
| | Cash..... | | 6,900 |

EXERCISE 10-25 (10–15 minutes)

- (a) C
- (b) E, assuming immaterial
- (c) C
- (d) C
- (e) C
- (f) E
- (g) C
- (h) C

EXERCISE 10-26 (20–25 minutes)

| | | | |
|-----|-------------------------------------------------|-----------|-----------|
| (a) | Depreciation Expense (8/12 X \$72,000)..... | 48,000 | |
| | Accumulated Depreciation—Machine | | 48,000 |
| | Loss on Disposal of Machine | | |
| | (\$1,300,000 – \$408,000) – \$630,000 | 262,000 | |
| | Cash..... | 630,000 | |
| | Accumulated Depreciation—Machine | | |
| | (\$360,000 + \$48,000)..... | 408,000 | |
| | Machine..... | | 1,300,000 |
| (b) | Depreciation Expense (3/12 X \$72,000)..... | 18,000 | |
| | Accumulated Depreciation—Machine | | 18,000 |
| | Cash | 1,040,000 | |
| | Accumulated Depreciation—Machine | | |
| | (\$360,000 + \$18,000)..... | 378,000 | |
| | Machine..... | | 1,300,000 |
| | Gain on Disposal of Machine | | |
| | [\$1,040,000 – (\$1,300,000 – \$378,000)] | | 118,000 |

EXERCISE 10-26 (Continued)

| | | | |
|-----|----------------------------------------------|-----------|-----------|
| (c) | Depreciation Expense (7/12 X \$72,000) | 42,000 | |
| | Accumulated Depreciation—Machine | | 42,000 |
| | Contribution Expense | 1,100,000 | |
| | Accumulated Depreciation—Machine | | |
| | (\$360,000 + \$42,000) | 402,000 | |
| | Machine | | 1,300,000 |
| | Gain on Disposal of Machine | | 202,000* |
| | *\$1,100,000 – (\$1,300,000 – \$402,000) | | |

EXERCISE 10-27 (15–20 minutes)

| | | | |
|---------|-----------------------------------------|---------|----------|
| April 1 | Cash | 410,000 | |
| | Accumulated Depreciation—Building | 160,000 | |
| | Land | | 60,000 |
| | Building | | 280,000 |
| | Gain on Disposal of Plant Assets | | 230,000* |

*Computation of gain:

| | |
|---------------------------------|------------------|
| Book value of land | \$ 60,000 |
| Book value of building | |
| (\$280,000 – \$160,000) | <u>120,000</u> |
| Book value of land and building | 180,000 |
| Cash received | <u>410,000</u> |
| Gain on disposal | <u>\$230,000</u> |

| | | | |
|--------|----------------|---------|---------|
| Aug. 1 | Land | 90,000 | |
| | Building | 380,000 | |
| | Cash | | 470,000 |

TIME AND PURPOSE OF PROBLEMS

Problem 10-1 (Time 35–40 minutes)

Purpose—to provide a problem involving the proper classification of costs related to property, plant, and equipment. Property, plant, and equipment must be segregated into land, buildings, leasehold improvements, and machinery and equipment for purposes of the analysis. Such costs as demolition costs, real estate commissions, imputed interest, minor and major repair work, and royalty payments are presented. An excellent problem for reviewing the first part of this chapter.

Problem 10-2 (Time 40–55 minutes)

Purpose—to provide a problem involving the proper classification of costs related to property, plant, and equipment. Such costs as land, freight and unloading, installation, parking lots, sales and use taxes, and machinery costs must be identified and appropriately classified. An excellent problem for reviewing the first part of this chapter.

Problem 10-3 (Time 35–45 minutes)

Purpose—to provide a problem involving the proper classification of costs related to land and buildings. Typical transactions involve allocation of the cost of removal of a building, legal fees paid, general expenses, cost of organization, special tax assessments, etc. A good problem for providing a broad perspective as to the types of costs expensed and capitalized.

Problem 10-4 (Time 35–40 minutes)

Purpose—to provide a problem involving the method of handling the disposition of certain properties. The dispositions include a condemnation, demolition, trade-in, contribution and sale to a shareholder. The problem therefore involves a number of situations and provides a good overview of the accounting treatment accorded property dispositions.

Problem 10-5 (Time 20–30 minutes)

Purpose—to provide the student with a problem in which schedules must be prepared for the costs of acquiring land and the costs of constructing a building. Interest costs are included.

Problem 10-6 (Time 25–35 minutes)

Purpose—to provide the student with a problem to determine costs to include in the value of land and plant, including interest capitalization.

Problem 10-7 (Time 20–30 minutes)

Purpose—to provide the student with a problem to compute capitalized interest and to present disclosures related to capitalized interest.

Problem 10-8 (Time 35–45 minutes)

Purpose—to provide the student with a problem involving the exchange of machinery. Four different exchange transactions are possible, and journal entries are required for each possible transaction. The exchange transactions cover the receipt and payment of cash as well as the purchase of a machine from a dealer of machinery.

Problem 10-9 (Time 30–40 minutes)

Purpose—to provide a problem on the accounting treatment for exchanges of assets that have and do not have commercial substance involving gain situations.

Problem 10-10 (Time 30–40 minutes)

Purpose—to provide the student with a problem involving the exchange of productive assets. The exchange of assets have and do not commercial substance.

Problem 10-11 (Time 35–45 minutes)

Purpose—to provide a property, plant, and equipment problem consisting of three transactions that have to be recorded—(1) an asset purchased on a deferred payment contract, (2) a lump-sum purchase, and (3) a non-monetary exchange.

SOLUTIONS TO PROBLEMS

PROBLEM 10-1

(a)

REAGAN COMPANY Analysis of Land Account for 2010

| | | |
|---------------------------------------|---------------|-------------------|
| Balance at January 1, 2010 | | £ 230,000 |
| <u>Land site number 621</u> | | |
| Acquisition cost | £850,000 | |
| Commission to real estate agent | 51,000 | |
| Clearing costs | £35,000 | |
| Less: Amounts recovered | <u>13,000</u> | <u>22,000</u> |
| Total land site number 621 | | 923,000 |
| <u>Land site number 622</u> | | |
| Land value | 300,000 | |
| Building value | 120,000 | |
| Demolition cost | <u>41,000</u> | |
| Total land site number 622 | | <u>461,000</u> |
| Balance at December 31, 2010 | | <u>£1,614,000</u> |

REAGAN COMPANY Analysis of Buildings Account for 2010

| | | |
|-------------------------------------------------------------|--------------|-------------------|
| Balance at January 1, 2010 | | £ 890,000 |
| Cost of new building constructed on land site number 622 | | |
| Construction costs | £330,000 | |
| Excavation fees | 38,000 | |
| Architectural design fees | 11,000 | |
| Building permit fee | <u>2,500</u> | <u>381,500</u> |
| Balance at December 31, 2010 | | <u>£1,271,500</u> |

PROBLEM 10-1 (Continued)

REAGAN COMPANY
Analysis of Leasehold Improvements Account
for 2010

| | |
|------------------------------------|-----------------|
| Balance at January 1, 2010..... | £660,000 |
| Office space | <u>89,000</u> |
| Balance at December 31, 2010 | <u>£749,000</u> |

REAGAN COMPANY
Analysis of Machinery and Equipment Account
for 2010

| | | |
|------------------------------------|--------------|-----------------|
| Balance at January 1, 2010..... | £875,000 | |
| Cost of the new machines acquired | | |
| Invoice price | £87,000 | |
| Freight costs | 3,300 | |
| Installation costs | <u>2,400</u> | <u>92,700</u> |
| Balance at December 31, 2010 | | <u>£967,700</u> |

- (b) Items in the fact situation which were not used to determine the answer to (a) above are as follows:
1. Interest imputed on equity financing is not permitted by IFRS and thus does not appear in any financial statement.
 2. Land site number 623, which was acquired for £650,000, should be included in Reagan's statement of financial position as land held for resale (investment section).
 3. Royalty payments of £17,500 should be included as a normal operating expense in Reagan's income statement.

PROBLEM 10-2

(a)

LOBO CORPORATION
Analysis of Land Account
2010

| | |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Balance at January 1, 2010..... | \$300,000 |
| Plant facility acquired from Mendota Company— portion of fair value allocated to land (Schedule 1) | <u>185,000</u> |
| Balance at December 31, 2010 | <u>\$485,000</u> |

LOBO CORPORATION
Analysis of Land Improvements Account
2010

| | |
|---------------------------------------------------|-------------------------|
| Balance at January 1, 2010..... | \$140,000 |
| Parking lots, streets, and sidewalks | <u>95,000</u> |
| Balance at December 31, 2010 | <u>\$235,000</u> |

LOBO CORPORATION
Analysis of Buildings Account
2010

| | |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Balance at January 1, 2010..... | \$1,100,000 |
| Plant facility acquired from Mendota Company— portion of fair value allocated to building (Schedule 1) | <u>555,000</u> |
| Balance at December 31, 2010 | <u>\$1,655,000</u> |

PROBLEM 10-2 (Continued)

LOBO CORPORATION
Analysis of Machinery and Equipment Account
2010

| | | |
|-----------------------------------------------------|-----------------------|----------------------------------|
| Balance at January 1, 2010 | | \$ 960,000 |
| Cost of new machinery and equipment acquired | | |
| Invoice price | \$400,000 | |
| Freight and unloading costs | 13,000 | |
| Sales taxes | 20,000 | |
| Installation costs | <u>26,000</u> | <u>459,000</u> |
| | | 1,419,000 |
| Deduct cost of machines disposed of | | |
| Machine scrapped June 30, 2010 | \$ 80,000* | |
| Machine sold July 1, 2010 | <u>44,000*</u> | <u>124,000</u> |
| Balance at December 31, 2010 | | <u><u>\$1,295,000</u></u> |

***The accumulated depreciation account can be ignored for this part of the problem.**

PROBLEM 10-2 (Continued)

Schedule 1

Computation of Fair Value of Plant Facility Acquired from Mendota Company and Allocation to Land and Building

20,000 shares of Lobo ordinary shares at \$37 quoted
market price on date of exchange (20,000 X \$37) \$740,000

Allocation to land and building accounts in proportion
to appraised values at the exchange date:

| | <u>Amount</u> | <u>Percentage of total</u> |
|----------|------------------|--------------------------------|
| Land | \$230,000 | 25 |
| Building | <u>690,000</u> | <u>75</u> |
| Total | <u>\$920,000</u> | <u>100</u> |

| | | |
|----------|-------------------|------------------|
| Land | (\$740,000 X 25%) | \$185,000 |
| Building | (\$740,000 X 75%) | <u>555,000</u> |
| Total | | <u>\$740,000</u> |

(b) Items in the fact situation that were not used to determine the answer to (a) above, are as follows:

1. The tract of land, which was acquired for \$150,000 as a potential future building site, should be included in Lobo's statement of financial position as an investment in land.
2. The \$110,000 and \$320,000 book values respective to the land and building carried on Mendota's books at the exchange date are not used by Lobo.
3. The \$12,000 loss (Schedule 2) incurred on the scrapping of a machine on June 30, 2010, should be included in the other income and expense section in Lobo's income statement. The \$68,000 accumulated depreciation (Schedule 2) should be deducted from the Accumulated Depreciation—Machinery and Equipment account in Lobo's statement of financial position.

PROBLEM 10-2 (Continued)

4. The \$3,000 loss on sale of a machine on July 1, 2010 (Schedule 3) should be included in the other income and expenses section of Lobo's income statement. The \$21,000 accumulated depreciation (Schedule 3) should be deducted from the Accumulated Depreciation—Machinery and Equipment account in Lobo's statement of financial position.

Schedule 2

Loss on Scrapping of Machine

June 30, 2010

| | |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Cost, January 1, 2002..... | \$80,000 |
| Accumulated depreciation (Straight-line method, 10-year life) January 1, 2002, to June 30, 2010 (\$80,000 ÷ 10) X 8½ years | <u>68,000</u> |
| Asset book value June 30, 2010 | <u>\$12,000</u> |
| Loss on scrapping of machine | <u>\$12,000</u> |

Schedule 3

Loss on Sale of Machine

July 1, 2010

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Cost, January 1, 2007..... | \$44,000 |
| Depreciation (straight-line method, salvage value of \$2,000, 7-year life) January 1, 2007, to July 1, 2010 [3½ years (\$44,000 – \$2,000) ÷ 7] | <u>(21,000)</u> |
| Asset book value July 1, 2010..... | <u>\$23,000</u> |
| Asset book value | \$23,000 |
| Proceeds from sale..... | <u>(20,000)</u> |
| Loss on sale | <u>\$ 3,000</u> |

| |
|---------------------|
| PROBLEM 10-3 |
|---------------------|

| | | | |
|-----|----|--------------------------------------------|---------|
| (a) | 1. | Land (Schedule A) | 188,700 |
| | | Building (Schedule B) | 136,250 |
| | | Insurance Expense (6 months X \$95) | 570 |
| | | Prepaid Insurance (16 months X \$95) | 1,520 |
| | | Organization Expense | 610 |
| | | Retained Earnings | 53,800 |
| | | Salary Expense | 32,100 |
| | | Land and Building | 399,950 |
| | | Share Premium—Preference | |
| | | (800 shares X \$17) | 13,600 |

Schedule A

Amount Consists of:

Acquisition Cost

| | |
|-----------------------------------------|------------------|
| (\$80,000 + [800 X \$117]) | \$173,600 |
| Removal of Old Building | 9,800 |
| Legal Fees (Examination of title) | 1,300 |
| Special Tax Assessment | 4,000 |
| Total | <u>\$188,700</u> |

Schedule B

Amount Consists of:

| | |
|-------------------------------------------|------------------|
| Legal Fees (Construction contract) | \$ 1,860 |
| Construction Costs (First payment) | 60,000 |
| Construction Costs (Second payment) | 40,000 |
| Insurance (2 months) | |
| ([2,280 ÷ 24] = \$95 X 2 = \$190) | 190 |
| Plant Superintendent's Salary | 4,200 |
| Construction Costs (Final payment) | 30,000 |
| Total | <u>\$136,250</u> |

| | | | |
|----|-----------------------------------------|--|-------|
| 2. | Land and Building | | 4,000 |
| | Depreciation Expense | | 2,637 |
| | Accumulated Depreciation—Building | | 1,363 |

PROBLEM 10-3 (Continued)

Schedule C

| | |
|------------------------------------------|------------------------|
| Depreciation taken | \$ 4,000 |
| Depreciation that should be taken | |
| (1% X \$136,250) | <u>(1,363)</u> |
| Depreciation adjustment..... | <u>\$ 2,637</u> |

| | | |
|---------------------------------------------|---------------------|-------------------------|
| (b) Plant, Property, and Equipment: | | |
| Land | | \$188,700 |
| Building | \$136,250 | |
| Less: Accumulated depreciation | <u>1,363</u> | <u>134,887</u> |
| Total | | <u>\$323,587</u> |

PROBLEM 10-4

The following accounting treatment appears appropriate for these items:

Land—The loss on the condemnation of the land of \$9,000 (\$40,000 – \$31,000) should be reported as an other income and expense item on the income statement. The \$35,000 land purchase has no income statement effect.

Building—There is no recognized gain or loss on the demolition of the building. The entire purchase cost (\$15,000), decreased by the demolition proceeds (\$3,600), is allocated to land.

Warehouse—The gain on the destruction of the warehouse should be reported as another income and expense item. The gain is computed as follows:

| | | |
|-------------------------------------|---------------|-----------------|
| Insurance proceeds..... | | \$74,000 |
| Deduct: Cost | \$70,000 | |
| Less: Accumulated depreciation..... | <u>16,000</u> | <u>54,000</u> |
| Realized gain | | <u>\$20,000</u> |

Some contend that a portion of this gain should be deferred because the proceeds are reinvested in similar assets. We do not believe such an approach should be permitted. Deferral of the gain in this situation is not permitted under IFRS.

Machine—The unrecognized gain on the transaction would be computed as follows:

| | | |
|-------------------------------------|--------------|----------------|
| Fair value of old machine..... | | \$7,200 |
| Deduct: Book value of old machine | | |
| Cost | \$8,000 | |
| Less: Accumulated depreciation..... | <u>2,800</u> | <u>5,200</u> |
| Total gain..... | | <u>\$2,000</u> |

PROBLEM 10-4 (Continued)

This gain would be deducted from the fair value of the new machine in computing the new machine’s cost. The cost of the new machine would be capitalized at \$4,300.

| | |
|--------------------------------|----------------|
| Fair value of new machine..... | \$6,300 |
| Less: Gain deferred | <u>2,000</u> |
| Cost of new machine | <u>\$4,300</u> |

Furniture—The contribution of the furniture would be reported as a contribution expense of \$3,100 with a related gain on disposition of furniture of \$950: $\$3,100 - (\$10,000 - \$7,850)$. The contribution expense and the related gain may be netted, if desired.

Automobile—The loss on sale of the automobile of \$2,580: $[\$2,960 - (\$9,000 - \$3,460)]$ should be reported in the other income and expense section.

| |
|---------------------|
| PROBLEM 10-5 |
|---------------------|

(a) **BLAIR CORPORATION**
Cost of Land (Site #101)
As of September 30, 2011

| | |
|--------------------------------------|------------------|
| Cost of land and old building | \$500,000 |
| Real estate broker's commission..... | 36,000 |
| Legal fees | 6,000 |
| Title insurance | 18,000 |
| Removal of old building | 54,000 |
| Cost of land | <u>\$614,000</u> |

(b) **BLAIR CORPORATION**
Cost of Building
As of September 30, 2011

| | |
|---------------------------------------------------|--------------------|
| Fixed construction contract price..... | \$3,000,000 |
| Plans, specifications, and blueprints..... | 21,000 |
| Architects' fees..... | 82,000 |
| Interest capitalized during 2010 (Schedule) | 130,000 |
| Interest capitalized during 2011 (Schedule) | 190,000 |
| Cost of building | <u>\$3,423,000</u> |

Schedule

Interest Capitalized During 2010 and 2011

| | Weighted-Average Accumulated Construction Expenditures | X | Interest Rate | = | Interest to be Capitalized |
|-------|--------------------------------------------------------------|---|---------------|---|-------------------------------|
| 2010: | \$1,300,000 | X | 10% | = | <u>\$130,000</u> |
| 2011: | \$1,900,000 | X | 10% | = | <u>\$190,000</u> |

| |
|---------------------|
| PROBLEM 10-6 |
|---------------------|

INTEREST CAPITALIZATION

Balance in the Land Account

| | |
|-----------------------------|-----------------|
| Purchase Price | ¥139,000 |
| Surveying Costs..... | 2,000 |
| Title Insurance Policy..... | 4,000 |
| Demolition Costs | 3,000 |
| Salvage..... | <u>(1,000)</u> |
| Total Land Cost | <u>¥147,000</u> |

| <u>Expenditures (2010)</u> | | | <u>Weighted-Average Accumulated Expenditures</u> |
|----------------------------|-----------------|-----------------|------------------------------------------------------|
| <u>Date</u> | <u>Amount</u> | <u>Fraction</u> | |
| 1-Dec | ¥147,000 | 1/12 | ¥12,250 |
| 1-Dec | 30,000 | 1/12 | 2,500 |
| 1-Dec | <u>3,000</u> | 1/12 | <u>250</u> |
| | <u>¥180,000</u> | | <u>¥15,000</u> |

Interest Capitalized for 2010

| <u>Weighted-Average Accumulated Expenditures</u> | <u>Interest Rate</u> | <u>Amount Capitalizable</u> |
|------------------------------------------------------|--------------------------|---------------------------------|
| ¥15,000 | 8% | <u>¥1,200</u> |

Interest charged to Interest Expense

| | |
|--------------------------------------------------------|---------------|
| $[(¥600,000 \times .08 \times \frac{1}{12}) - ¥1,200]$ | <u>¥2,800</u> |
|--------------------------------------------------------|---------------|

PROBLEM 10-6 (Continued)

| <u>Expenditures (2011)</u> | | | <u>Weighted</u> |
|----------------------------|-----------------|-----------------|--------------------|
| <u>Date</u> | <u>Amount</u> | <u>Fraction</u> | <u>Expenditure</u> |
| 1-Jan | ¥180,000 | 6/12 | ¥ 90,000 |
| 1-Jan | 1,200 | 6/12 | 600 |
| 1-Mar | 240,000 | 4/12 | 80,000 |
| 1-May | 330,000 | 2/12 | 55,000 |
| 1-Jul | 60,000 | 0 | 0 |
| | <u>¥811,200</u> | | <u>¥225,600</u> |

Interest Capitalized for 2011

| <u>Weighted- Average Expenditure</u> | <u>Interest Rate</u> | <u>Amount Capitalizable</u> |
|----------------------------------------------|--------------------------|---------------------------------|
| ¥225,600 | 8% | <u>¥18,048</u> |

Interest charged to Interest Expense

[(¥600,000 X .08) – ¥18,048] ¥29,952

| | | |
|-----|---------------------------------------------|-----------|
| (a) | Balance in Land Account—2010 and 2011 | 147,000 |
| (b) | Balance in Building—2010 | 34,200* |
| | Balance in Building—2011 | 682,248** |
| (c) | Balance in Interest Expense—2010..... | 2,800 |
| | Balance in Interest Expense—2011..... | 29,952 |

***¥30,000 + ¥3,000 + ¥1,200**

****¥34,200 + ¥240,000 + ¥330,000 + ¥60,000 + ¥18,048**

PROBLEM 10-7

(a) Computation of Weighted-Average Accumulated Expenditures

| <u>Expenditures</u> | | | <u>Capitalization</u> | | <u>Weighted-Average</u> |
|---------------------|--------------------|---|-----------------------|---|---------------------------------|
| <u>Date</u> | <u>Amount</u> | X | <u>Period</u> | = | <u>Accumulated Expenditures</u> |
| July 30, 2010 | \$ 900,000 | | 10/12 | | \$ 750,000 |
| January 30, 2011 | 1,500,000 | | 4/12 | | 500,000 |
| May 30, 2011 | <u>1,600,000</u> | | 0 | | <u>0</u> |
| | <u>\$4,000,000</u> | | | | <u>\$1,250,000</u> |

| <u>Weighted-Average</u> | | <u>Capitalization</u> | | <u>Avoidable</u> |
|---------------------------------|---|-----------------------|---|------------------|
| <u>Accumulated Expenditures</u> | X | <u>Rate</u> | = | <u>interest</u> |
| \$1,250,000 | | 11.2%* | | <u>\$140,000</u> |

Loans Outstanding During Construction Period

| | <u>Principal</u> | <u>Actual Interest</u> |
|---------------------|--------------------|------------------------|
| *10% five-year note | \$2,000,000 | \$200,000 |
| 12% ten-year bond | <u>3,000,000</u> | <u>360,000</u> |
| | <u>\$5,000,000</u> | <u>\$560,000</u> |

$$\frac{\text{Total interest}}{\text{Total principal}} = \frac{\$560,000}{\$5,000,000} = 11.2\% \text{ (capitalization rate)}$$

(c) (1) and (2)

| | |
|----------------------------|------------------|
| Total actual interest cost | <u>\$560,000</u> |
| Total interest capitalized | <u>\$140,000</u> |
| Total interest expensed | <u>\$420,000</u> |

| |
|---------------------|
| PROBLEM 10-8 |
|---------------------|

1. Holyfield Corporation

| | | |
|------------------------------------|--------|---------|
| Cash..... | 23,000 | |
| Machinery | 69,000 | |
| Accumulated Depreciation | 60,000 | |
| Loss on Disposal of Machinery..... | 8,000* | |
| Machinery..... | | 160,000 |

| | |
|----------------------------------|-----------------|
| *Computation of loss: Book value | \$100,000 |
| Fair value | <u>(92,000)</u> |
| Loss | <u>\$ 8,000</u> |

Dorsett Company

| | | |
|------------------------------------|--------|---------|
| Machinery | 92,000 | |
| Accumulated Depreciation | 45,000 | |
| Loss on Disposal of Machinery..... | 6,000* | |
| Cash | | 23,000 |
| Machinery..... | | 120,000 |

| | |
|----------------------------------|-----------------|
| *Computation of loss: Book value | \$ 75,000 |
| Fair value | <u>(69,000)</u> |
| Loss | <u>\$ 6,000</u> |

2. Holyfield Corporation

| | | |
|------------------------------------|--------|---------|
| Machinery | 92,000 | |
| Accumulated Depreciation | 60,000 | |
| Loss on Disposal of Machinery..... | 8,000 | |
| Machinery..... | | 160,000 |

Winston Company

| | | |
|--------------------------------------|---------|---------|
| Machinery (\$92,000 – \$11,000)..... | 81,000* | |
| Accumulated Depreciation | 71,000 | |
| Machinery..... | | 152,000 |

***Computation of gain**

| | | |
|-----------|---------------|-----------------|
| deferred: | Fair value | \$92,000 |
| | Book value | <u>(81,000)</u> |
| | Gain deferred | <u>\$11,000</u> |

PROBLEM 10-8 (Continued)

3. Holyfield Corporation

| | | |
|-------------------------------------|--------|---------|
| Machinery..... | 95,000 | |
| Accumulated Depreciation..... | 60,000 | |
| Loss on Disposal of Machinery | 8,000 | |
| Machinery | | 160,000 |
| Cash..... | | 3,000 |

Liston Company

| | | |
|-------------------------------------|--------|---------|
| Machinery..... | 92,000 | |
| Accumulated Depreciation..... | 75,000 | |
| Cash | 3,000 | |
| Machinery | | 160,000 |
| Gain on Disposal of Machinery | | 10,000* |

| | |
|-------------|------------------|
| *Fair value | \$ 95,000 |
| Book value | <u>(85,000)</u> |
| Gain | <u>\$ 10,000</u> |

Because the exchange has commercial substance, the entire gain should be recognized.

4. Holyfield Corporation

| | | |
|-------------------------------------|---------|---------|
| Machinery..... | 185,000 | |
| Accumulated Depreciation..... | 60,000 | |
| Loss on Disposal of Machinery | 8,000 | |
| Machinery | | 160,000 |
| Cash..... | | 93,000 |

Greeley Company

| | | |
|------------------------------|---------|---------|
| Cash | 93,000 | |
| Used Machine Inventory | 92,000 | |
| Sales | | 185,000 |
| Cost of Goods Sold | 130,000 | |
| Inventory | | 130,000 |

| |
|---------------------|
| PROBLEM 10-9 |
|---------------------|

(a) Exchange has commercial substance:

Hyde, Inc.'s Books

| | | |
|-------------------------------------------------|---------------|---------------|
| Asset B..... | 75,000 | |
| Accumulated Depreciation—Asset A | 40,000 | |
| Asset A..... | | 96,000 |
| Gain on Disposal of Plant Assets | | |
| (\$60,000 – [\$96,000 – \$40,000]) | | 4,000 |
| Cash | | 15,000 |

Wiggins, Inc.'s Books

| | | |
|-------------------------------------------------|---------------|----------------|
| Cash..... | 15,000 | |
| Asset A..... | 60,000 | |
| Accumulated Depreciation—Asset B | 47,000 | |
| Asset B..... | | 110,000 |
| Gain on Disposal of Plant Assets | | |
| (\$75,000 – [\$110,000 – \$47,000])..... | | 12,000 |

(b) Exchange lacks commercial substance:

Hyde, Inc.'s Books

| | | |
|-----------------------------------------------|----------------|---------------|
| Asset B (\$75,000 – \$4,000) | 71,000* | |
| Accumulated Depreciation—Asset A | 40,000 | |
| Asset A..... | | 96,000 |
| Cash | | 15,000 |

***Computation of gain deferred:**

| | |
|----------------------|------------------------|
| Fair value | \$60,000 |
| Book value | <u>(56,000)</u> |
| Gain deferred | <u>\$ 4,000</u> |

PROBLEM 10-9 (Continued)

Wiggins, Inc.'s Books

| | | |
|----------------------------------------|--------|---------|
| Cash..... | 15,000 | |
| Asset A (\$60,000 – \$12,000*) | 48,000 | |
| Accumulated Depreciation—Asset B | 47,000 | |
| Asset B | | 110,000 |

Computation of gain deferred:

| | |
|-----------------------|------------------|
| Fair value of Asset B | \$75,000 |
| Book value of Asset B | <u>(63,000)</u> |
| Gain deferred | <u>\$12,000*</u> |

| |
|----------------------|
| PROBLEM 10-10 |
|----------------------|

(a) Has Commercial Substance

| <u>Marshall Construction</u> | | | |
|------------------------------|------------------------------------------|----------------|---------|
| 1. | Equipment (€82,000 + €118,000) | 200,000 | |
| | Accumulated Depreciation—Equipment | 50,000 | |
| | Loss on Disposal of Plant Assets | 8,000* | |
| | Equipment | | 140,000 |
| | Cash | | 118,000 |
| *Computation of loss: | | | |
| | Book value of old crane | | |
| | (€140,000 – €50,000) | €90,000 | |
| | Fair value of old crane | 82,000 | |
| | Loss on disposal of plant assets | <u>€ 8,000</u> | |

| <u>Brigham Manufacturing</u> | | | |
|------------------------------|---------------------------|---------|---------|
| 2. | Cash | 118,000 | |
| | Equipment Inventory | 82,000 | |
| | Sales | | 200,000 |
| | Cost of Goods Sold | 165,000 | |
| | Equipment Inventory | | 165,000 |

(b) Lacks Commercial Substance

1. Marshall Construction should record the same entry as in part (a) above, since the exchange resulted in a loss.
2. Brigham should record the same entry as in part (a) above. No gain is deferred because we are assuming that Marshall is a customer.

(c) Has Commercial Substance

| <u>Marshall Construction</u> | | | |
|------------------------------|------------------------------------------|----------------|---------|
| 1. | Equipment (€98,000 + €102,000) | 200,000 | |
| | Accumulated Depreciation—Equipment | 50,000 | |
| | Equipment | | 140,000 |
| | Cash | | 102,000 |
| | Gain on Disposal of Plant Assets | | 8,000* |
| *Computation of gain: | | | |
| | Book value of old crane | | |
| | (€140,000 – €50,000) | €90,000 | |
| | Fair value of old crane | 98,000 | |
| | Gain on disposal of plant assets | <u>€ 8,000</u> | |

PROBLEM 10-10 (Continued)

| | | | |
|-----|------------------------------------------|-------------------------------------|---------|
| | | <u>Brigham Manufacturing</u> | |
| 2. | Cash | 102,000 | |
| | Equipment Inventory | 98,000 | |
| | Sales | | 200,000 |
| | Cost of Goods Sold..... | 165,000 | |
| | Equipment Inventory..... | | 165,000 |
| (d) | | <u>Marshall Construction</u> | |
| 1. | Equipment (€200,000 – €7,000*) | 193,000 | |
| | Accumulated Depreciation—Equipment | 50,000 | |
| | Cash..... | | 103,000 |
| | Equipment | | 140,000 |

*[Fair Value—Old (€97,000) – Book Value—Old (€90,000)]

| | | | |
|----|---------------------------|-------------------------------------|---------|
| | | <u>Brigham Manufacturing</u> | |
| 2. | Cash | 103,000 | |
| | Equipment Inventory | 97,000 | |
| | Sales | | 200,000 |
| | Cost of Goods Sold..... | 165,000 | |
| | Equipment Inventory..... | | 165,000 |

Same reasons as cited in (b) (2) on the previous page.

PROBLEM 10-11

- (a) The major characteristics of plant assets, such as land, buildings, and equipment, that differentiate them from other types of assets are presented below.
1. Plant assets are acquired for use in the regular operations of the enterprise and are not for resale.
 2. Property, plant, and equipment possess physical substance or existence and are thus differentiated from intangible assets such as patents and goodwill. Unlike other assets that possess physical substance (i.e., raw materials), property, plant, and equipment do not physically become part of the product held for resale.
 3. These assets are durable and long-term in nature and are usually subject to depreciation.
- (b) *Transaction 1.* To properly reflect cost, assets purchased on deferred-payment contracts should be accounted for at the present value of the consideration exchanged between the contracting parties at the date of the consideration. When no interest rate is stated, interest must be imputed at a rate that approximates the rate that would be negotiated in an arm's-length transaction. In addition, all costs necessary to ready the asset for its intended use are considered to be costs of the asset.

Asset cost = Present value of the note + Freight + Installation

$$\begin{aligned} &= \left[\left(\frac{\$28,000}{4} \right) \times 3.17 \right] + \$425 + \$500 \\ &= \$22,190 + \$925 \\ &= \$23,115 \end{aligned}$$

PROBLEM 10-11 (Continued)

Transaction 2. The lump-sum purchase of a group of assets should be accounted for by allocating the total cost among the various assets on the basis of their relative fair values. The \$8,000 of interest expense incurred for financing the purchase is a period cost and is not a factor in determining asset cost.

| | |
|-----------|------------------------------------------------------|
| Inventory | $\$220,000 \times (\$ 50,000/\$250,000) = \$44,000$ |
| Land | $\$220,000 \times (\$ 80,000/\$250,000) = \$70,400$ |
| Building | $\$220,000 \times (\$120,000/\$250,000) = \$105,600$ |

Transaction 3. The cost of a non-monetary asset acquired in an exchange that has commercial substance should be recorded at the fair value of the asset given up plus any cash paid. Furthermore, any gain on the exchange is also recognized.

| | |
|----------------------------|------------------------|
| Fair value of trucks | \$46,000 |
| Cash paid | <u>19,000</u> |
| Cost of land | <u>\$65,000</u> |

- (c)
1. A building purchased for speculative purposes is not a plant asset as it is not being used in normal operations. The building is more appropriately classified as an investment.
 2. The two-year insurance policy covering plant equipment is not a plant asset as it is not long-term in nature, not subject to depreciation, and has no physical substance. This policy is more appropriately classified as a current asset (prepaid insurance).
 3. The rights for the exclusive use of a process used in the manufacture of ballet shoes are not plant assets as they have no physical substance. The rights should be classified as an intangible asset.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 10-1 (Time 20–25 minutes)

Purpose—to provide the student with a problem to decide which expenditures related to purchasing land, constructing a building, and adding to the building should be capitalized and how each should be depreciated. When the land and building are sold, the student discusses how the book value is determined and how a gain would be reported.

CA 10-2 (Time 20–25 minutes)

Purpose—to provide the student with a situation involving the proper allocation of costs to self-constructed machinery. As part of this case, the student is required to discuss the propriety of including overhead costs in the construction costs. Finally, the proper accounting treatment accorded the development costs associated with the construction of a new machine must be evaluated.

CA 10-3 (Time 20–25 minutes)

Purpose—to provide the student with a problem involving the proper accounting treatment for interest costs. The student is required to assess the advantages and disadvantages of capitalizing interest. In addition, this problem should provide you with an opportunity to discuss the IASB pronouncement in this area.

CA 10-4 (Time 30–40 minutes)

Purpose—to provide the student with a situation to determine capitalization of interest and to explain in a memorandum the conceptual basis for interest capitalization.

CA 10-5 (Time 30–40 minutes)

Purpose—to provide the student with a situation in which to examine differences in accounting for exchanges that have or lack commercial substance.

CA 10-6 (Time 20–25 minutes)

Purpose—to provide the student with an understanding of the proper accounting treatment involving incidental costs associated with the purchase of a machine. The student must be able to defend why certain costs might be capitalized even though this valuation has no relationship to net realizable value. In addition, the costs may be charged off immediately for tax purposes and the student is required to analyze why these costs may still be capitalized for book purposes.

CA 10-7 (Time 20–25 minutes)

Purpose—to provide the student with a case involving allocation of costs between land and buildings, including ethical issues.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 10-1

- (a) Expenditures should be capitalized when they benefit future periods. The cost to acquire the land should be capitalized and classified as land, a nondepreciable asset. Since tearing down the small factory is readying the land for its intended use, its cost is part of the cost of the land and should be capitalized and classified as land. As a result, this cost will not be depreciated as it would if it were classified with the capitalizable cost of the building.

Since rock blasting and removal is required for the specific purpose of erecting the building, these costs are part of the cost of the building and should be capitalized and classified with the capitalizable cost of the building. This cost should be depreciated over the estimated useful life of the building.

The road and the parking lot are land improvements, and these costs should be capitalized and classified separately as a land improvements. These costs should be depreciated over their estimated useful lives.

The added four stories is an addition, and its cost should be capitalized and classified with the capitalizable cost of the building. This cost should be depreciated over the remaining life of the original office building because that life is shorter than the estimated useful life of the addition.

- (b) A gain should be recognized on the sale of the land and building because income is realized whenever the earning process has been completed and a sale has taken place.

The net book value at the date of sale would be composed of the capitalized cost of the land, the land improvement, and the building, as determined above, less the accumulated depreciation on the land improvement and the building. The excess of the proceeds received from the sale over the net book value at the date of sale would be accounted for as a gain in continuing operations in the income statement.

CA 10-2

- (a) Materials and direct labor used in the construction of the equipment definitely should be charged to the equipment account. It should be emphasized that no gain on self-construction should be recorded because such an approach violates the historical cost principle. The controversy centers on the assignment of indirect costs, called overhead or burden, consisting of power, heat, light, insurance, property taxes on factory buildings, etc. The suggested approaches are discussed below.
- (b) 1. Many believe that only the variable overhead costs that increase as a result of the construction should be assigned to the cost of the asset. This approach assumes that the company will have the same fixed costs regardless of whether the company constructs the asset or not, so to charge a portion of the fixed overhead costs to the equipment will usually decrease current expenses and consequently overstate income of the current period. Therefore, only the incremental costs should be charged.
2. Proponents of alternative (2) argue that such assets should be given the same treatment as inventory items and that all costs should be allocated thereto just as if saleable goods were being produced. They state that no special favor should be granted in the allocation of any cost, as long as sufficient facts are available to enable the allocation to be made. They argue that allocation of overhead to fixed assets is similar to allocation to joint products and byproducts, and should be made at regular rates. Of course, no item should be capitalized at an amount greater than that prevailing in the market.

CA 10-2 (Continued)

- (c) It could be argued that because costs of development are usually higher on the first few units, the additional costs of \$273,000 should be allocated to all four machines. If these costs are due to inefficiency and not development costs, the additional costs should be expensed.

CA 10-3

Three approaches have been suggested to account for actual interest incurred in financing the construction or acquisition of property, plant, and equipment. One approach is to capitalize no interest during construction. Under this approach interest is considered a cost of financing and not a cost of construction. It is contended that if the company had used equity financing rather than debt financing, this expense would not have developed. The major arguments against this approach are that an implicit interest cost is associated with the use of cash regardless of the source.

A second approach is to capitalize the actual interest costs. This approach relies on the historical cost concept that only actual transactions are recorded. It is argued that interest incurred is as much a cost of acquiring the asset as the cost of the materials, labor, and other resources used. As a result, a company that uses debt financing will have an asset of higher cost than an enterprise that uses equity financing. The results achieved by this approach are held to be unsatisfactory by some because the cost of an asset should be the same whether cash, debt financing, or equity financing is employed.

A third approach is to charge construction with all costs of funds employed, whether identifiable or not. This approach is an economic cost approach that maintains that one part of the cost of construction is the cost of financing whether by debt, cash, or equity financing. An asset should be charged with all costs necessary to get it ready for its intended use. Interest, whether actual or imputed, is a cost of building, just as labor, materials, and overhead are costs. A major criticism of this approach is that imputation of a cost of equity capital is subjective and outside the framework of a historical cost system.

IFRS require that the lower of actual or avoidable interest cost be capitalized as part of the cost of acquiring an asset if a significant period of time is required to bring the asset to a condition or location necessary for its intended use. Interest costs would be capitalized (provided interest costs are being incurred) starting with the first expenditure related to the asset and would continue until the asset is substantially completed and ready for its intended use. Capitalization should occur only if the benefits exceed the costs.

To: Jane Esplanade, President

From: Good Student, Manager of Accounting

Date: January 15, 2010

Subject: Capitalization of avoidable interest on the warehouse construction project

I am writing in response to your questions about the capitalized interest costs for the warehouse construction project. This brief explanation of my calculations should facilitate your understanding of these costs.

Generally, the accounting profession does not allow accrued interest to be capitalized along with an asset's cost. However, the IASB made an exception for interest costs incurred during construction. In order to qualify for this treatment, the constructed asset must require a period of time to become ready for its intended use.

Because interest capitalization is allowed in special circumstances only, the company must be especially careful to capitalize only that interest which is associated with the construction itself. Thus, the IASB issued a standard indicating how much interest may be associated with the construction, i.e., the lower of actual or avoidable interest.

On the surface, this standard seems simple. Actual interest incurred during the construction period equals all interest which accrued on any debt outstanding during that period. Avoidable interest equals the amount of interest which would not have been incurred if the construction project had not been undertaken. The amount of interest capitalized is the smaller of the two.

To determine the amount capitalized, we must calculate both the actual and the avoidable interest during 2009. Actual interest is computed by applying the interest rates of 12%, 10%, and 11% to their related debt. Thus, total actual interest for this period is \$490,000 (see Schedule #1 on page 10-70).

CA 10-4 (Continued)

Calculations for avoidable interest are more complex. First, interest can be capitalized only on the weighted-average amount of accumulated expenditures. Although total costs amounted to \$5,200,000 for the project, an average of only \$3,500,000 was committed to the project during the period of construction.

Second, of the total \$4,400,000 debt outstanding during this period, only \$2,000,000 of it can be associated with the actual construction project. Therefore, rather than arbitrarily choose the interest rate for one of the other loans, we must calculate the capitalization rate. This rate is the ratio of accrued interest on the other loans to the total amount of their principal. For the \$1,500,000 balance of weighted-average accumulated expenditures, this interest rate equals 10.42% (see Schedule #2).

Third, we compute our avoidable interest as follows: calculate the interest on the loan directly associated with the construction. Apply the capitalization rate to the remainder of the weighted-average accumulated expenditures. Now, add these products. Avoidable interest for 2009 amounts to \$396,300 (see Schedule #3).

So as not to overstate the interest associated with the construction, we capitalize the smaller of the two—\$396,300—along with the other construction costs. The remainder of the interest (\$93,700) is expensed.

I hope that this explanation has answered any questions you may have had about capitalized interest. If any further questions should arise, please contact me.

CA 10-4 (Continued)

Schedule #1

Actual Interest

| | | |
|-------------------|---------------------|------------------|
| Construction loan | \$2,000,000 X 12% = | \$240,000 |
| Short-term loan | \$1,400,000 X 10% = | 140,000 |
| Long-term loan | \$1,000,000 X 11% = | <u>110,000</u> |
| Total | | <u>\$490,000</u> |

Schedule #2

Capitalization Rate

| Capitalization rate computation | <u>Principal</u> | <u>Interest</u> |
|---------------------------------|--------------------|------------------|
| 10% short-term loan | \$1,400,000 | \$140,000 |
| 11% long-term loan | <u>1,000,000</u> | <u>110,000</u> |
| | <u>\$2,400,000</u> | <u>\$250,000</u> |

$$\frac{\text{Total Interest}}{\text{Total Principal}} = \frac{\$250,000}{\$2,400,000} = 10.42\%$$

Schedule #3

Avoidable Interest

| <u>Weighted-Average Accumulated Expenditures</u> | <u>X Interest Rate</u> | <u>= Avoidable Interest</u> |
|------------------------------------------------------|------------------------|-----------------------------|
| \$2,000,000 | 12% | \$240,000 |
| <u>1,500,000</u> | 10.42% | <u>156,300</u> |
| <u>\$3,500,000</u> | | <u>\$396,300</u> |

Schedule #4

Interest Capitalized

Because avoidable interest is lower than actual interest, use avoidable interest.

| | |
|----------------------------|--------------------|
| Cost | \$5,200,000 |
| Interest capitalized | <u>396,300</u> |
| Total cost | <u>\$5,596,300</u> |

CA 10-5

(a) Client A

Treatment if the exchange has commercial substance

Client A would recognize a gain of £20,000 on the exchange. The basis of the asset acquired would be £100,000. The entry would be as follows:

| | | |
|---------------------------------------------------|----------------|---------|
| Machinery (£80,000 + £20,000)..... | 100,000 | |
| Accumulated Depreciation—Machinery | 40,000 | |
| Cash | | 20,000 |
| Gain on Disposal of Plant Assets | | 20,000* |
| Machinery..... | | 100,000 |
| | | |
| *Book value of old machinery (£100,000 – £40,000) | £60,000 | |
| Fair value of old machinery | <u>80,000</u> | |
| Gain on disposal of plant asset | <u>£20,000</u> | |

(b) Treatment if the exchange lacks commercial substance

Client A would be prohibited from recognizing a £20,000 gain on the exchange. This is because the transaction lacks commercial substance. The new asset on their books would have a basis of £80,000 (£100,000 less the £20,000 unrecognized gain). The entry would be as follows:

| | | |
|--------------------------------------|--------|---------|
| Machinery (£100,000 – £20,000) | 80,000 | |
| Accumulated Depreciation..... | 40,000 | |
| Cash | | 20,000 |
| Machinery..... | | 100,000 |

(c) Memo to the Controller:

TO: The Controller

RE: Exchanges of Assets—Commercial Substance Issues.

Financial statement effect of treating the exchange as having commercial substance versus not.

1. The income statement will reflect a before-tax gain of £20,000. This gain will increase the reported income on this year's financial statements. Future income statements will probably show a higher depreciation deduction because of an increased book value of the new asset. Thus future income statements will reflect lower income.
2. The current statement of financial position will show a £20,000 higher value for plant assets, a higher liability for taxes payable and higher retained earnings if the exchange has commercial substance. This difference will disappear gradually as the asset is depreciated.

CA 10-5 (Continued)

(d) Client B

Treatment if the exchange has commercial substance

In this situation, the full £30,000 gain would be recognized on this year’s income statement. The new asset would go on the books at its fair value. The entry is as follows:

| | | |
|---------------------------------------------------|-----------------|---------|
| Machinery | 80,000 | |
| Accumulated Depreciation—Machinery | 80,000 | |
| Cash | 20,000 | |
| Machinery | | 150,000 |
| Gain on Disposal of Plant Assets | | 30,000* |
| | | |
| *Book value of old machinery (£150,000 – £80,000) | £ 70,000 | |
| Fair value of old machinery | <u>100,000</u> | |
| Gain on disposal of plant assets | <u>£ 30,000</u> | |

(e) Treatment if the exchange lacks commercial substance

| | | |
|------------------------------------------|--------|---------|
| Machinery (£80,000 – £30,000) | 50,000 | |
| Accumulated Depreciation—Machinery | 80,000 | |
| Cash..... | 20,000 | |
| Machinery | | 150,000 |

(f) Memo to the Controller:

TO: The Controller

RE: Asset Exchanges—Commercial Substance

1. The income statement will reflect a before-tax gain of £30,000 if the exchange has commercial substance. This gain will increase the reported income on this year’s financial statements. Future income statements will probably show a higher depreciation deduction because of an increased book value of the new asset. Thus future income statements will reflect lower income. No gain will be reported if the exchange lacks commercial substance.
2. The current statement of financial position will show a £30,000 higher value for plant assets, a higher liability for taxes payable and higher retained earnings if the exchange has commercial substance. This difference will disappear gradually as the asset is depreciated.

CA 10-6

In general, the inclusion of the \$7,500 as part of the cost of the machine is justified because the primary purpose in accounting for plant asset costs is to secure an equitable allocation of incurred costs over the period of time when the benefits are being received from the use of the assets. These costs—both the \$50,000 and the \$7,500—are much like prepaid expenses, to be matched against the revenue emerging through their use. The purpose of accounting for plant assets then is not primarily aimed at determining the fair valuation of the asset for statement of financial position purposes, but proper matching of incurred costs with revenue resulting from use of the assets.

- (1) It may be true that these installation costs could not be recovered if the machine were to be sold. This is not important, however, because presumably the machine was acquired to be used, not to be sold. Assuming approximately equal utilization of the machine in each of the ten years, the owner properly could allocate \$5,750 (10% of \$57,500) against each year's operations. If the owner's suggestion was followed, the first year would be charged with \$12,500 (\$7,500 plus 10% of \$50,000), and the following nine years with \$5,000 per year, hence overstating expenses by \$6,750 the first year and understating expenses by \$750 per year for the succeeding nine years. This could hardly be defended as proper matching of costs and revenue.
- (2) Again, the purpose of accounting for plant assets is not to arrive at an approximation of fair value of the assets each year over the life of the assets. However, even if this were an objective, the question of which method would come closer to stating current fair value at some later date would revolve around the general trend of the price level over the years involved.
- (3) Assuming that the \$7,500 could properly be deducted, there would be some tax savings over the years unless the tax rates applicable to the business were reduced during the following years. There is some value to taking the \$7,500 deduction right now because of the present value of money. If the rates increased, there would be an increase in total taxes, due to higher rates applicable during the period when depreciation deductions would be reduced. However, IFRS are not determined by income tax effects.

CA 10-7

- (a) If the land is undervalued so that a higher cost is assigned to the building, management interests are served. The lower net income and reduced tax liability save cash to be used for management purposes. By contrast, shareholders and potential investors are misled by the inaccurate cost values. They will have been deprived of information concerning the significant impact of changing real estate values on this holding.
- (b) The ethical question centers on whether to allocate the cost of the purchase on the fair value of land and building or whether to determine the allocation in view of the potential effect on net income. Carter faces an ethical dilemma if Ankara will not accept Carter's position. Carter should specify alternative courses of action and carefully assess the consequences of each before deciding what to do.
- (c) For basket (lump-sum) purchases of land and buildings, costs should be allocated on the ratio of fair values of the land and buildings.

FINANCIAL STATEMENT ANALYSIS CASE

UNILEVER

- (a) The cost of plant and building equipment at the end of 2008 was €4,098,000,000.
- (b) As indicated in footnote number one to the financial statements, the company utilizes the straight-line method for financial statement purposes for all additions to property, plant, and equipment. Given that straight-line depreciation provides a lower charge for depreciation as compared to an accelerated method in the early years of an asset's life, the accounting appears to be less conservative.
- (c) The cash flow statement reports the amount of interest paid in cash (€487 million).
- (d) Free cash flow is defined as net cash flows provided by operating activities less capital expenditures and dividends.

Free cash flow is the amount of discretionary cash flow a company has for purchasing additional investments, retiring its debt, purchasing treasury stock, or simply adding to its liquidity. In Unilever's situation, free cash flow is computed as follows:

| | |
|--------------------------------------------------------|----------------------|
| Net cash flows from operating activities | €3,871,000,000 |
| Less: Additions to property, plant and equipment | 1,142,000,000 |
| Dividends | <u>2,086,000,000</u> |
| Free cash flow | <u>€ 643,000,000</u> |

As indicated from the above computation, Unilever has considerable free cash flows. The company has excellent financial flexibility.

FINANCIAL STATEMENT ANALYSIS CASE (Continued)

For example, the company is able to pay its dividends without resorting to external financing. Secondly, even if operations decline, it appears that the company will be able to fund additions to property, plant, and equipment. Thirdly, the company is using its free cash flow to expand its operations by acquiring new businesses.

ACCOUNTING, ANALYSIS AND PRINCIPLES

ACCOUNTING

| | | |
|------------------------------------------|---------|---------|
| Equipment (\$50,000 + \$12,000) | 62,000 | |
| Accumulated Depreciation—Equipment | 80,000* | |
| Equipment | | 112,000 |
| Cash | | 12,000 |
| Gain on Disposal of Equipment | | |
| \$50,000 – (\$112,000 – \$80,000) | | 18,000 |

*($\$112,000 - \$12,000$) \div 5 = \$20,000/yr. X 4 yrs.

ANALYSIS

The gain on the disposal increases income, leading to a one-time increase in the return on assets (ROA) in the year of the exchange. In essence, the gain reflects the extent to which prior years' depreciation was overstated related to the decline in the fair value of the asset traded in. As a result, in the year of the exchange, Durler's ROA will appear higher than in prior years. Some analysts will adjust these nonrecurring gains out of income when conducting analysis using ROA.

PRINCIPLES

The concept of commercial substance is a fundamental element in the accounting for exchanges. If the transaction above lacked commercial substance, the gain on the exchange would be deferred. That is, if the expected cash flows arising from the assets exchanged are not significantly different, Durler is in the same economic position after the exchange with respect to exchanged assets. As a result, no gain is reported, and the nonrecurring gain will not affect analysts' comparisons of a company's ROA across years with and without exchanges.

- (a) Yes, it is permissible to capitalize interest into the cost of assets. IAS 23 revised: (<http://eifrs.iasb.org/eifrs/bnstandards/en/ias23.pdf>.)**
- (b) The objectives of capitalizing interest are to allow an entity the right to capitalize borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset (par. 1).**
- (c) The following assets qualify for interest capitalization (par. 7):**
 - a. inventories**
 - b. manufacturing plants**
 - c. power generation facilities**
 - d. intangible assets**
 - e. investment properties.**
- (d) Yes, there is a limit to the amount of interest capitalised in a period. To the extent that an entity borrows funds specifically for the purpose of obtaining a qualifying asset, the entity shall determine the amount of borrowing costs eligible for capitalisation as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings (par. 12).**
- (e) An entity shall disclose:**
 - a. the amount of borrowing costs capitalised during the period; and**
 - b. the capitalisation rate used to determine the amount of borrowing costs eligible for capitalisation (par. 26).**

PROFESSIONAL SIMULATION

Measurement

Historical cost is measured by the cash or cash-equivalent price of obtaining the asset and bringing it to the location and condition for its intended use. For Norwel, this is:

| | |
|---------------------------------|-----------------|
| Price | \$12,000 |
| Sales tax (\$12,000 X .05)..... | 600 |
| Platform..... | <u>1,400</u> |
| Total | <u>\$14,000</u> |

Journal Entry

January 2, 2009

| | | |
|---------------|--------|--------|
| Machine | 14,000 | |
| Cash | | 14,000 |

December 31, 2009

| | | |
|--------------------------------|-------|--------|
| Depreciation Expense | 1,500 | |
| Accumulated Depreciation | | 1,500* |

*Depreciable base: $(\$14,000 - \$2,000) = \$12,000$

Depreciation expense: $\$12,000 \div 4 = \$3,000$ per year

2009: 1/2 year = $\$3,000 \times .50 = \$1,500$

Financial Statements

The amount reported in the statement of financial position at December 31, 2010 is the cost of the asset less accumulated depreciation:

| | |
|--------------------------------|-----------------|
| Machine | \$14,000 |
| Accumulated depreciation | <u>(4,500)</u> |
| Book value | <u>\$ 9,500</u> |

PROFESSIONAL SIMULATION (Continued)

Analysis

The income effect is a gain or loss, determined by comparing the book value of the asset to the disposal value:

| | |
|----------------------------------------------------|-----------------|
| Cost..... | \$14,000 |
| Accumulated depreciation (\$4,500 + \$1,500*)..... | <u>6,000</u> |
| Book value | 8,000 |
| Cash received for machine and platform | <u>7,000</u> |
| Pretax loss | <u>\$ 1,000</u> |

*\$3,000 X 6/12

CHAPTER 11

Depreciation, Impairments, and Depletion

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|-----------------------------------------------------------------------------------|--------------------------------------|-----------------|-----------------------------|------------------------|-----------------------|
| 1. Depreciation methods; meaning of depreciation; choice of depreciation methods. | 1, 2, 3, 4, 5, 6, 10, 13, 19, 20, 28 | | 1, 2, 3, 4, 5, 8, 14, 15 | 1, 2, 3 | 1, 2, 3, 4 |
| 2. Computation of depreciation. | 7, 8, 9, 12, 30 | 1, 2, 3, 4 | 1, 2, 3, 4, 5, 6, 7, 10, 15 | 1, 2, 3, 4, 5, 6, 7, 8 | 1, 2 |
| 3. Depreciation base. | 6 | 5 | 8, 14, 18 | 1, 2, 3, 5, 6 | 2 |
| 4. Errors; changes in estimate. | 12 | 7 | 11, 12, 13, 14 | 3, 4 | 2 |
| 5. Depreciation of partial periods. | 14 | 2, 3, 4 | 3, 4, 5, 6, 7, 15 | 1, 2, 3, 6, 7 | |
| 6. Component depreciation. | 11 | 6, 8 | 9, 16, 17 | | |
| 7. Impairment of value. | 15, 16, 17, 18, 28 | 9 | 18, 19, 20 | 9, 10 | |
| 8. Depletion. | 20, 21, 22, 23, 24 | 10 | 21, 22, 23 | 11, 12 | |
| 9. Ratio analysis. | 27 | 12 | 28 | | |
| 10. Convergence. | 28, 29 | | | | |
| *11. Revaluation accounting. | 25, 26, 28, 29, 30 | 11 | 24, 25, 26, 27, 29 | 13, 14 | |

*This material is covered in an Appendix to the chapter.

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|-----------------------------------------------------------------------------------------|-----------------|---------------------------------------------------|----------------------------|
| 1. Explain the concept of depreciation. | | | |
| 2. Identify the factors involved in the depreciation process. | 2, 3, 4, 5, 7 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 | 1, 2, 3, 4, 5, 6, 7, 8 |
| 3. Compare activity, straight-line and diminishing-charge methods of depreciation. | 1, 2, 3, 4, 7 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 | 1, 2, 3, 4, 5, 6, 7, 8, 12 |
| 4. Explain component depreciation. | 6, 8 | 9, 16, 17 | |
| 5. Explain the accounting issues related to asset impairment. | 9 | 18, 19, 20 | 9, 10 |
| 6. Explain the accounting procedures for depletion of mineral resources. | 10 | 21, 22, 23 | 11, 12 |
| 7. Explain the accounting for revaluations. | 11 | 24, 25, 26, 27, 29 | 5, 13, 14 |
| 8. Explain how to report and analyze property, plant, equipment, and mineral resources. | 12 | 28 | |
| *9. Explain revaluation accounting procedures. | 11 | 29 | 13, 14 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|---------|-------------------------------------------------------------|---------------------|----------------|
| E11-1 | Depreciation computations—SL, SYD, DDB. | Simple | 15–20 |
| E11-2 | Depreciation—conceptual understanding. | Moderate | 20–25 |
| E11-3 | Depreciation computations—SYD, DDB—partial periods. | Simple | 15–20 |
| E11-4 | Depreciation computations—five methods. | Simple | 15–25 |
| E11-5 | Depreciation computations—four methods. | Simple | 20–25 |
| E11-6 | Depreciation computations—five methods, partial periods. | Moderate | 20–30 |
| E11-7 | Different methods of depreciation. | Simple | 25–35 |
| E11-8 | Depreciation computation—replacement, nonmonetary exchange. | Moderate | 20–25 |
| E11-9 | Component depreciation. | Simple | 15–20 |
| E11-10 | Depreciation computations, SYD. | Simple | 10–15 |
| E11-11 | Depreciation—change in estimate. | Simple | 10–15 |
| E11-12 | Depreciation computation—addition, change in estimate. | Simple | 20–25 |
| E11-13 | Depreciation—replacement, change in estimate. | Simple | 15–20 |
| E11-14 | Error analysis and depreciation, SL and SYD. | Moderate | 20–25 |
| E11-15 | Depreciation for fractional periods. | Moderate | 25–35 |
| E11-16 | Component depreciation. | Simple | 10–15 |
| E11-17 | Component depreciation. | Simple | 10–15 |
| E11-18 | Impairment. | Simple | 10–15 |
| E11-19 | Impairment. | Simple | 15–20 |
| E11-20 | Impairment. | Simple | 15–20 |
| E11-21 | Depletion computations—oil. | Simple | 10–15 |
| E11-22 | Depletion computations—mining. | Simple | 15–20 |
| E11-23 | Depletion computations—minerals. | Simple | 15–20 |
| E11-24 | Revaluation accounting. | Simple | 10–15 |
| E11-25 | Revaluation accounting. | Simple | 10–15 |
| E11-26 | Revaluation accounting. | Moderate | 15–20 |
| E11-27 | Revaluation accounting. | Moderate | 10–15 |
| E11-28 | Ratio analysis. | Moderate | 15–20 |
| *E11-29 | Revaluation accounting. | Moderate | 20–25 |
| P11-1 | Depreciation for partial period—SL, SYD, and DDB. | Simple | 25–30 |
| P11-2 | Depreciation for partial periods—SL, Act., SYD, and DDB. | Simple | 25–35 |
| P11-3 | Depreciation—SYD, Act., SL, and DDB. | Moderate | 40–50 |
| P11-4 | Depreciation and error analysis. | Complex | 45–60 |
| P11-5 | Comprehensive property, plant, and equipment problem. | Moderate | 25–35 |
| P11-6 | Comprehensive depreciation computations. | Complex | 45–60 |
| P11-7 | Depreciation for partial periods—SL, Act., SYD, and DDB. | Moderate | 30–35 |

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|---------|---------------------------------------------------------|---------------------|----------------|
| P11-8 | Depreciation methods. | Moderate | 25–35 |
| P11-9 | Impairment. | Moderate | 15–25 |
| P11-10 | Impairment. | Moderate | 30–35 |
| P11-11 | Mineral resources. | Moderate | 15–20 |
| P11-12 | Depletion and depreciation—mining. | Moderate | 25–30 |
| *P11-13 | Revaluations. | Moderate | 20–25 |
| *P11-14 | Revaluations. | Moderate | 25–35 |
| CA11-1 | Depreciation basic concepts. | Moderate | 25–35 |
| CA11-2 | Depreciation—strike, units-of-production, obsolescence. | Moderate | 25–35 |
| CA11-3 | Depreciation concepts. | Moderate | 25–35 |
| CA11-4 | Depreciation choice. | Moderate | 20–25 |

ANSWERS TO QUESTIONS

1. The differences among the terms depreciation, depletion, and amortization are that they imply a cost allocation of different types of assets. Depreciation is employed to indicate that tangible plant assets have decreased in carrying value. Where mineral resources (wasting assets) such as timber, oil, coal, and lead are involved, the term depletion is used. The expiration of intangible assets such as patents or copyrights is referred to as amortization.
2. The factors relevant in determining the annual depreciation for a depreciable asset are the initial recorded amount (cost), estimated residual value, estimated useful life, and depreciation method.

Assets are typically recorded at their acquisition cost, which is in most cases objectively determinable. But cost assignment in other cases—"basket purchases" and the selection of an implicit interest rate in asset acquisitions under deferred-payment plans—may be quite subjective, involving considerable judgment.

The residual value is an estimate of an amount potentially realizable when the asset is retired from service. The estimate is based on judgment and is affected by the length of the useful life of the asset.

The useful life is also based on judgment. It involves selecting the "unit" of measure of service life and estimating the number of such units embodied in the asset. Such units may be measured in terms of time periods or in terms of activity (for example, years or machine hours). When selecting the life, one should select the lower (shorter) of the physical life or the economic life. Physical life involves wear and tear and casualties; economic life involves such things as technological obsolescence and inadequacy.

Selecting the depreciation method is generally a judgment decision, but a method may be inherent in the definition adopted for the units of service life, as discussed earlier. For example, if such units are machine hours, the method is a function of the number of machine hours used during each period. A method should be selected that will best measure the portion of services expiring each period. Once a method is selected, it may be objectively applied by using a predetermined, objectively derived formula.

3. Disagree. Accounting depreciation is defined as an accounting process of allocating the costs of tangible assets to expense in a systematic and rational manner to the periods expected to benefit from the use of the asset. Thus, depreciation is not a matter of valuation but a means of cost allocation.
4. The carrying value of property, plant, and equipment is its cost less accumulated depreciation. If the company estimates that the asset will have an unrealistically long life, periodic depreciation charges, and hence accumulated depreciation, will be lower. As a result the carrying value of the asset will be higher.
5. A change in the amount of annual depreciation recorded does not change the facts about the decline in economic usefulness. It merely changes reported figures. Depreciation in accounting consists of allocating the cost of an asset over its useful life in a systematic and rational manner. Abnormal obsolescence, as suggested by the plant manager, would justify more rapid depreciation, but increasing the depreciation charge would not necessarily result in funds for replacement. It would not increase revenue but simply make reported income lower than it would have been, thus preventing overstatement of net income.

Recording depreciation on the books does not set aside any assets for eventual replacement of the depreciated assets. Fund segregation can be accomplished but it requires additional managerial action. Unless an increase in depreciation is accompanied by an increase in sales price of the product, or unless it affects management's decision on dividend policy, it does not affect funds.

Questions Chapter 11 (Continued)

Ordinarily higher depreciation will not lead to higher sales prices and thus to more rapid “recovery” of the cost of the asset, and the economic factors present would have permitted this higher price regardless of the excuse given or the particular rationalization used. The price could have been increased without a higher depreciation charge.

The funds of a firm operating profitably do increase, but these may be used as working capital policy may dictate. The measure of the increase in these funds from operations is not merely net income, but that figure plus charges to operations which did not require working capital, less credits to operations which did not create working capital. The fact that net income alone does not measure the increase in funds from profitable operations leads some non-accountants to the erroneous conclusion that a fund is being created and that the amount of depreciation recorded affects the fund accumulation.

Acceleration of depreciation for purposes of income tax calculation stands in a slightly different category, since this is not merely a matter of recordkeeping. Increased depreciation will tend to postpone tax payments, and thus temporarily increase funds (although the liability for taxes may be the same or even greater in the long run than it would have been) and generate gain to the firm to the extent of the value of use of the extra funds.

6. Assets are retired for one of two reasons: physical factors or economic factors—or a combination of both. Physical factors are the wear and tear, decay, and casualty factors which hinder the asset from performing indefinitely. Economic factors can be interpreted to mean any other constraint that develops to hinder the service life of an asset. Some accountants attempt to classify the economic factors into three groups: **inadequacy**, **supersession**, and **obsolescence**. **Inadequacy** is defined as a situation where an asset is no longer useful to a given enterprise because the demands of the firm have increased. **Supersession** is defined as a situation where the replacement of an asset occurs because another asset is more efficient and economical. **Obsolescence** is the catchall term that encompasses all other situations and is sometimes referred to as the major concept when economic factors are considered.
7. Before the amount of the depreciation charge can be computed, three basic questions must be answered:
 - (1) What is the depreciation base to be used for the asset?
 - (2) What is the asset’s useful life?
 - (3) What method of cost apportionment is best for this asset?

| | | | |
|--------------------------|-----------------|----------------------------|------------------|
| 8. Cost | €800,000 | Cost | €800,000 |
| Depreciation rate | X 30%* | Depreciation for 2010 | <u>(240,000)</u> |
| Depreciation for 2010 | <u>€240,000</u> | Undepreciated cost in 2011 | 560,000 |
| | | Depreciation rate | X 30% |
| 2010 Depreciation | €240,000 | Depreciation for 2011 | <u>€168,000</u> |
| 2011 Depreciation | <u>168,000</u> | | |
| Accumulated depreciation | | | |
| at December 31, 2011 | <u>€408,000</u> | | |

*(1 ÷ 5) X 150%

Questions Chapter 11 (Continued)

9. Depreciation base:

| | | | |
|----------|------------------|-------------------------------------------------------------|-----------------|
| Cost | \$162,000 | Straight-line, $\$147,000 \div 20 =$ | <u>\$ 7,350</u> |
| Residual | <u>(15,000)</u> | | |
| | <u>\$147,000</u> | Units-of-output, $\frac{\$147,000}{84,000} \times 20,000 =$ | <u>\$35,000</u> |
| | | Working hours, $\frac{\$147,000}{42,000} \times 14,300 =$ | <u>\$50,050</u> |
| | | Sum-of-the-years'-digits, $\$147,000 \times 20/210^* =$ | <u>\$14,000</u> |
| | | Double-declining-balance, $\$162,000 \times 10\% =$ | <u>\$16,200</u> |

$$\frac{*20(20 + 1)}{2} = 210$$

10. From a conceptual point of view, the method which best matches revenue to expenses should be used; in other words, the answer depends on the decline in the service potential of the asset. If the service potential decline is faster in the earlier years, an accelerated method would seem to be more desirable. On the other hand, if the decline is more uniform, perhaps a straight-line approach should be used. Many firms adopt depreciation methods for more pragmatic reasons. Some companies use accelerated methods for tax purposes but straight-line for book purposes because a higher net income figure is shown on the books in the earlier years, but a lower tax is paid to the government. Others attempt to use the same method for tax and accounting purposes because it eliminates some recordkeeping costs. Tax policy sometimes also plays a role.
11. Component depreciation involves depreciating separately each part of an item of property, plant, and equipment that is significant to the total cost of the asset.
12. Original estimate: $\$2,500,000 \div 50 = \$50,000$ per year
 Depreciation to January 1, 2011: $\$50,000 \times 24 = \$1,200,000$
 Depreciation in 2011 $(\$2,500,000 - \$1,200,000) \div 15 \text{ years} = \$86,667$
13. No, depreciation does not provide cash; revenues do. The funds for the replacement of the assets come from the revenues; without the revenues no income materializes and no cash inflow results. A separate decision must be made by management to set aside cash to accumulate asset replacement funds. Depreciation is added to net income on the statement of cash flows (indirect method) because it is a noncash expense, not because it is a cash inflow.
14. 25% straight-line rate $\times 2 = 50\%$ double-declining rate
 $\$8,000 \times 50\% = \$4,000$ Depreciation for first full year.
 $\$4,000 \times 6/12 = \$2,000$ Depreciation for half a year (first year), 2010.
 $\$6,000 \times 50\% = \$3,000$ Depreciation for 2011.
15. To determine whether an asset is impaired, on an annual basis, companies review the asset for indicators of impairment – that is, a decline in the asset's cash-generating ability through use or sale. If the recoverable amount is less than the carrying amount, the asset has been impaired. The impairment loss is measured as the amount by which the carrying amount exceeds the recoverable amount of the asset. The recoverable amount of assets is defined as the higher of fair value less costs to sell or value-in-use.

Questions Chapter 11 (Continued)

16. Under IFRS, impairment losses on plant assets may be restored as long as the write-up is never greater than the carrying amount before impairment.
17. An impairment is deemed to have occurred if, in applying the impairment test, the carrying amount of the asset exceeds the recoverable amount of the asset. In this case, the value-in-use of €705,000 exceeds the carrying amount of the equipment of €700,000 so no impairment is assumed to have occurred; thus no measurement of the loss is made or recognized even though the fair value is €590,000.
18. Impairment losses are reported as part of operating income generally in the “Other income and expense” section. Impairment losses (and recovery of impairment losses) are similar to other costs that would flow through operations. Thus, gains (recoveries of losses) on long-lived assets should be reported as part of operating income in the “Other income and expense” section of the income statement.
19. In a decision to replace or not to replace an asset, the undepreciated cost of the old asset is not a factor to be considered. Therefore, the decision to replace plant assets should not be affected by the amount of depreciation that has been recorded. The relative efficiency of new equipment as compared with that presently in use, the cost of the new facilities, the availability of capital for the new asset, etc., are the factors entering into the decision. Normally, the fact that the asset had been fully depreciated through the use of some accelerated depreciation method, although the asset was still in use, should not cause management to decide to replace the asset. If the new asset under consideration for replacement was not any more efficient than the old, or if it cost a good deal more in relationship to its efficiency, it is illogical for management to replace it merely because all or the major portion of the cost had been charged off for tax and accounting purposes.

If depreciation rates were higher it might be true that a business would be financially more able to replace assets, since during the earlier years of the asset's use a larger portion of its cost would have been charged to expense, and hence during this period a smaller amount of income tax paid. By selling the old asset, which might result in a capital gain, and purchasing a new asset, the higher depreciation charge might be continued for tax purposes. However, if the asset were traded in, having taken higher depreciation would result in a lower basis for the new asset.

It should be noted that expansion (not merely replacement) might be encouraged by increased depreciation rates. Management might be encouraged to expand, believing that in the first few years when they are reasonably sure that the expanded facilities will be profitable, they can charge off a substantial portion of the cost as depreciation for tax purposes. Similarly, since a replacement involves additional capital outlays, the tax treatment may have some influence.

Also, because of the inducement to expand or to start new businesses, there may be a tendency in the economy as a whole for the accounting and tax treatment of the cost of plant assets to influence the retirement of old plant assets.

It should be noted that to the extent that increased depreciation causes management to alter its decision about replacement, it is not matching costs and revenues in the closest possible manner.

Questions Chapter 11 (Continued)

20. (a) Depreciation and cost depletion are similar in the accounting sense in that:
1. The cost of the asset is the starting point from which computation of the amount of the periodic charge to operations is made.
 2. The estimated life is based on economic or productive life.
 3. The accumulated total of past charges to operations is deducted from the original cost of the asset on the balance sheet.
 4. When output methods of computing depreciation charges are used, the formulas are essentially the same as those used in computing depletion charges.
 5. Both represent an apportionment of cost under the process of matching costs with revenue.
 6. Assets subject to either are reported in the same classification on the balance sheet.
 7. Appraisal values are sometimes used for depreciation while discovery values are sometimes used for depletion.
 8. Residual value is properly recognized in computing the charge to operations.
 9. They may be included in inventory if the related asset contributed to the production of the inventory.
 10. The rates may be changed upon revision of the estimated productive life used in the original rate computations.
- (b) Depreciation and cost depletion are dissimilar in the accounting sense in that:
1. Depletion is almost always based on output whereas depreciation is usually based on time.
 2. Many formulas are used in computing depreciation but only one is used to any extent in computing depletion.
 3. Depletion applies to natural resources while depreciation applies to plant and equipment.
 4. Depletion refers to the physical exhaustion or consumption of the asset while depreciation refers to the wear, tear, and obsolescence of the asset.
 5. Under statutes which base the legality of dividends on accumulated earnings, depreciation is usually a required deduction but depletion is usually not a required deduction.
 6. The computation of the depletion rate is usually much less precise than the computation of depreciation rates because of the greater uncertainty in estimating the productive life.
 7. A difference that is temporary in nature arises from the timing of the recognition of depreciation under conventional accounting and under tax laws, and it results in the recording of deferred income taxes. On the other hand, the difference between cost depletion under conventional accounting and its counterpart, percentage depletion, under the tax laws is permanent and does not require the recording of deferred income taxes.
21. Cost depletion is the procedure by which the capitalized costs, less residual land values, of a natural resource are systematically charged to operations. The purpose of this procedure is to match the cost of the resource with the revenue it generates. The usual method is to divide the total cost less residual value by the estimated number of recoverable units to arrive at a depletion charge for each unit removed. A change in the estimate of recoverable units will necessitate a revision of the unit charge.
22. Exploration costs include expenditures for topographical and geophysical study exploratory drilling and activities to evaluate the technical feasibility of extracting a mineral resource. Development costs are exploration costs reclassified once technical feasibility and commercial viability of production are demonstrated.
23. The maximum dividend permissible is the amount of accumulated net income (after depletion) plus the amount of depletion charged. This practice can be justified for companies that expect to extract natural resources and not purchase additional properties. In effect, such companies are distributing gradually to stockholders their original investments.

Questions Chapter 11 (Continued)

24. Using full-cost accounting, the cost of unsuccessful ventures as well as those that are successful are capitalized, because a cost of drilling a dry hole is a cost that is needed to find the commercially profitable wells. Successful efforts accounting capitalizes only those costs related to successful projects. They contend that to measure cost and effort accurately for a single property unit, the only measure is in terms of the cost directly related to that unit. In addition, it is argued that full-cost is misleading because capitalizing all costs will make an unsuccessful company over a short period of time show no less income than does one that is successful.
25. The land should be reported on the statement of financial position at ¥20,000,000 and an unrealized gain of ¥5,000,000 is reported as other comprehensive income in the statement of comprehensive income.
26. A major reason must companies do not use revaluation accounting is the substantial and continuing costs associated with appraisals to determine fair value. In addition, losses associated with revaluation below historical cost decrease net income. However, revaluation increases result in higher depreciation expense and lower income.

27. Asset turnover ratio:

$$\frac{\$41}{\$140} = .293 \text{ times}$$

Rate of return on assets:

$$\frac{\$3}{\$140} = 2.1\%$$

28. IFRS adheres to many of the same principles of U.S. GAAP in the accounting for property, plant, and equipment. **Key similarities** are: (1) Under IFRS, capitalization of interest or borrowing costs incurred during construction of assets can either be expensed or capitalized. Once certain criteria are met, interest must be capitalized (this accounting has recently converged to U.S. GAAP; (2) IFRS, like U.S. GAAP, capitalizes all direct costs in self-constructed assets. IFRS does not address the capitalization of fixed overhead, although in practice, these costs are generally capitalized; (3) The accounting for exchange of non-monetary assets has recently converged between IFRS and U.S. GAAP. U.S. GAAP now requires that gains on exchanges of non-monetary assets be recognized if the exchange has commercial substance. This is the framework used in IFRS; (4) IFRS also views depreciation as an allocation of cost over an asset's life; IFRS permits the same depreciation methods (straight-line, accelerated, units-of-production) as U.S. GAAP. **Key Difference:** IFRS permits asset revaluations (which are not permitted in U.S. GAAP.) Consequently, for the companies that use the revaluation framework, revaluation depreciation procedures must be followed. According to IAS 16, if revaluation is used, it must be applied to all assets in a class of assets and assets must be revalued on an annual basis.
29. While there is a single key difference, it is an important one—the issue of revaluations. With respect to revaluations, the IASB and the FASB are working on a joint project to converge their conceptual frameworks. One element of that project will examine the measurement bases used in accounting. It is too early to say whether a converged conceptual framework will recommend fair value measurement (and revaluation accounting) for property, plant, and equipment. However, this is likely to be one of the more contentious issues, given the long-standing use of historical cost as a measurement basis in U.S. GAAP.

Questions Chapter 11 (Continued)

30. Mandive makes the following journal entries in year 1, assuming straight-line depreciation.

| | | |
|----------------------------------------------------------------------------|---------|---------|
| Depreciation Expense | 100,000 | |
| Accumulated Depreciation—Plant Assets..... | | 100,000 |
| <i>To record depreciation expense in year 1</i> | | |
| Accumulated Depreciation—Plant Assets | 100,000 | |
| Plant Assets..... | | 40,000 |
| Unrealized Gain on Revaluation—Equipment..... | | 60,000 |
| <i>To adjust the plant assets to fair value and record unrealized gain</i> | | |

Thus, there is a 2-step process. First, record depreciation based on the cost of \$400,000. As a result, depreciation expense of \$100,000 is reported on the income statement. Secondly, the revaluation of \$60,000 which is the difference between the fair value of \$360,000 and the book value of \$300,000 is recorded.

Note to Instructor: The unrealized gain is reported in equity as a component of other comprehensive income. Mandive now reports the following information at the end of year 1 for its plant assets:

| | |
|---------------------------------------------|------------------|
| Plant Assets (\$400,000 – \$40,000) | \$360,000 |
| Accumulated depreciation—Plant assets | <u>–0–</u> |
| Book value | <u>\$360,000</u> |
| Unrealized gain | <u>\$ 60,000</u> |

As indicated, \$360,000 is the new basis of the asset. Depreciation expense of \$100,000 is reported in the income statement and \$60,000 is reported in other comprehensive income. The \$60,000 of other comprehensive income then is also reported as an unrealized gain in the statement of financial position. Assuming no change in the useful life, depreciation in year 2 will be \$120,000 (\$360,000 ÷ 3).

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 11-1

$$2010: \frac{(\$50,000 - \$2,000) \times 23,000}{160,000} = \underline{\$6,900}$$

$$2011: \frac{(\$50,000 - \$2,000) \times 31,000}{160,000} = \underline{\$9,300}$$

BRIEF EXERCISE 11-2

$$(a) \quad \frac{€80,000 - €8,000}{8} = \underline{€9,000}$$

$$(b) \quad \frac{€80,000 - €8,000}{8} \times 4/12 = \underline{€3,000}$$

BRIEF EXERCISE 11-3

$$(a) \quad (€80,000 - €8,000) \times 8/36^* = \underline{€16,000}$$

$$(b) \quad [(€80,000 - €8,000) \times 8/36] \times 9/12 = \underline{€12,000}$$

$$*[8(8 + 1)] \div 2$$

BRIEF EXERCISE 11-4

$$(a) \quad €80,000 \times 25\%^* = \underline{€20,000}$$

$$(b) \quad (€80,000 \times 25\%) \times 3/12 = \underline{€5,000}$$

$$*(1/8 \times 2)$$

BRIEF EXERCISE 11-5

Depreciable Base = $(\$28,000 + \$200 + \$125 + \$500 + \$475) - \$3,000 = \$26,300$.

BRIEF EXERCISE 11-6

| Component | Depreciation Expense |
|-----------|--------------------------------------|
| A | $(\$70,000 - \$7,000)/10 = \$ 6,300$ |
| B | $(\$50,000 - \$5,000)/5 = 9,000$ |
| C | $(\$82,000 - \$4,000)/12 = 6,500$ |
| | <u>\$21,800</u> |

BRIEF EXERCISE 11-7

Annual depreciation expense: $(£8,000 - £1,000)/5 = \underline{£1,400}$

Book value, 1/1/11: $£8,000 - (2 \times £1,400) = \underline{£5,200}$

Depreciation expense, 2011: $(£5,200 - £500)/2 = \underline{£2,350}$

BRIEF EXERCISE 11-8

| Component | Depreciation Expense |
|------------------|------------------------------------------------------------|
| Building | $(\text{HK\$}11,000,000 - 0) \div 40 = \text{HK\$}275,000$ |
| 15-year property | $(\text{HK\$ } 150,000 - 0) \div 15 = 10,000$ |
| 5-year property | $(\text{HK\$ } 150,000 - 0) \div 5 = 30,000$ |
| | <u>HK\$315,000</u> |

BRIEF EXERCISE 11-9

Impairment test:

Present value of future net cash flows* (\$500,000) < Carrying amount (\$520,000); therefore, the asset has been impaired.

Journal entry:

| | | |
|-------------------------------|--------|--------|
| Loss on Impairment | 20,000 | |
| Accumulated Depreciation | | |
| (\$520,000 – \$500,000) | | 20,000 |

*Used as recoverable amount because it is greater than fair value less costs to seed.

BRIEF EXERCISE 11-10

| | | |
|-----------------------------|--------|--------|
| Inventory | 73,500 | |
| Accumulated Depletion | | 73,500 |

$$\frac{\$400,000 + \$100,000 + \$80,000 - \$160,000}{4,000} = \underline{\$105 \text{ per ton}}$$

$$700 \times \$105 = \underline{\$73,500}$$

BRIEF EXERCISE 11-11

| | | | |
|-----|---------------------------------------------------|-------------|-------------|
| (a) | Accumulated Depreciation—Equipment | 100,000,000 | |
| | Equipment | 150,000,000 | |
| | Unrealized Gain on Revaluation | | 250,000,000 |
| (b) | Depreciation Expense (¥650,000,000 – 0) ÷ 4 | 162,500,000 | |
| | Accumulated Depreciation— | | |
| | Equipment | | 162,500,000 |

BRIEF EXERCISE 11-12

(a) Asset turnover ratio:

$$\frac{\$7,867}{\frac{\$7,745 + \$6,445}{2}} = 1.109 \text{ times}$$

(b) Profit margin on sales:

$$\frac{\$854}{\$7,867} = 10.86\%$$

(c) Rate of return on assets:

1. $1.109 \times 10.86\% = 12.04\%$

2.
$$\frac{\$854}{\frac{\$7,745 + \$6,445}{2}} = 12.04\%$$

SOLUTIONS TO EXERCISES

EXERCISE 11-1 (15–20 minutes)

- (a) Straight-line method depreciation for each of Years 1 through 3 =

$$\frac{\$518,000 - \$50,000}{12} = \underline{\$39,000}$$

- (b) Sum-of-the-Years'-Digits = $\frac{12 \times 13}{2} = 78$

$$12/78 \times (\$518,000 - \$50,000) = \underline{\$72,000} \quad \text{depreciation Year 1}$$

$$11/78 \times (\$518,000 - \$50,000) = \underline{\$66,000} \quad \text{depreciation Year 2}$$

$$10/78 \times (\$518,000 - \$50,000) = \underline{\$60,000} \quad \text{depreciation Year 3}$$

- (c) Double-Declining-Balance method depreciation rate. $\frac{100\%}{12} \times 2 = 16.67\%$

$$\$518,000 \times 16.67\% = \underline{\$86,351} \quad \text{depreciation Year 1}$$

$$(\$518,000 - \$86,351) \times 16.67\% = \underline{\$71,956} \quad \text{depreciation Year 2}$$

$$(\$518,000 - \$86,351 - \$71,956) \times 16.67\% = \underline{\$59,961} \quad \text{depreciation Year 3}$$

EXERCISE 11-2 (20–25 minutes)

- (a) If there is any residual value and the amount is unknown (as is the case here), the cost would have to be determined by looking at the data for the double-declining balance method.

$$\frac{100\%}{5} = 20\%; 20\% \times 2 = 40\%$$

$$\text{Cost} \times 40\% = \$20,000$$

$$\$20,000 \div .40 = \underline{\$50,000} \quad \text{Cost of asset}$$

EXERCISE 11-2 (Continued)

- (b) \$50,000 cost [from (a)] – \$45,000 total depreciation = \$5,000 residual value.
- (c) The highest charge to income for Year 1 will be yielded by the double-declining-balance method.
- (d) The highest charge to income for Year 4 will be yielded by the straight-line method.
- (e) The method that produces the highest book value at the end of Year 3 would be the method that yields the lowest accumulated depreciation at the end of Year 3, which is the straight-line method.

Computations:

St.-line = \$50,000 – (\$9,000 + \$9,000 + \$9,000) = \$23,000 book value, end of Year 3.

S.Y.D. = \$50,000 – (\$15,000 + \$12,000 + \$9,000) = \$14,000 book value, end of Year 3.

D.D.B. = \$50,000 – (\$20,000 + \$12,000 + \$7,200) = \$10,800 book value, end of Year 3.

- (f) The method that will yield the highest gain (or lowest loss) if the asset is sold at the end of Year 3 is the method which will yield the lowest book value at the end of Year 3, which is the double-declining balance method in this case.

EXERCISE 11-3 (15–20 minutes)

(a) $\frac{20(20+1)}{2} = 210$

$\frac{3}{4} \times \frac{20}{210} \times (\text{€}774,000 - \text{€}60,000) = \underline{\text{€}51,000}$ for 2010

| | | |
|---------------------------------------------------------------------------------|---|-------------------------|
| $\frac{1}{4} \times \frac{20}{210} \times (\text{€}774,000 - \text{€}60,000)$ | = | €17,000 |
| + $\frac{3}{4} \times \frac{19}{210} \times (\text{€}774,000 - \text{€}60,000)$ | = | <u>48,450</u> |
| | | <u>€65,450</u> for 2011 |

EXERCISE 11-3 (Continued)

(b) $\frac{100\%}{20} = 5\%; 5\% \times 2 = 10\%$

$3/4 \times 10\% \times \text{€}774,000 = \text{€}58,050 \text{ for 2010}$

$10\% \times (\text{€}774,000 - \text{€}58,050) = \text{€}71,595 \text{ for 2011}$

EXERCISE 11-4 (15–25 minutes)

(a) $\$279,000 - \$15,000 = \$264,000; \$264,000 \div 10 \text{ yrs.} = \$26,400$

(b) $\$264,000 \div 240,000 \text{ units} = \$1.10; 25,500 \text{ units} \times \$1.10 = \$28,050$

(c) $\$264,000 \div 25,000 \text{ hours} = \$10.56 \text{ per hr.}; 2,650 \text{ hrs.} \times \$10.56 = \$27,984$

(d) $10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 55 \text{ OR } \frac{n(n+1)}{2} = \frac{10(11)}{2} = 55$

$\frac{10}{55} \times \$264,000 \times 1/3 = \$16,000$

$\frac{9}{55} \times \$264,000 \times 2/3 = \underline{28,800}$

Total for 2011 \$44,800

(e) $\$279,000 \times 20\% \times 1/3 = \$18,600$

$[\$279,000 - (\$279,000 \times 20\%)] \times 20\% \times 2/3 = \underline{29,760}$

Total for 2011 \$48,360

[May also be computed as 20% of $(\$279,000 - 2/3 \text{ of } 20\% \text{ of } \$279,000)$]

EXERCISE 11-5 (20–25 minutes)

(a)
$$\frac{(\$150,000 - \$24,000)}{5} = \$25,200/\text{yr.} = \$25,200 \times 5/12 = \underline{\$10,500}$$

2010 Depreciation—Straight line = \$10,500

(b)
$$\frac{(\$150,000 - \$24,000)}{21,000} = \$6.00/\text{hr.}$$

2010 Depreciation—Machine Usage = 800 X \$6.00 = \$4,800

| Machine Year | Total | Allocated to | |
|-----------------|-----------------------------|-----------------|-----------------|
| | | 2010 | 2011 |
| 1 | 5/15 X \$126,000 = \$42,000 | \$17,500* | \$24,500** |
| 2 | 4/15 X \$126,000 = \$33,600 | | 14,000*** |
| | | <u>\$17,500</u> | <u>\$38,500</u> |

* \$42,000 X 5/12 = \$17,500

** \$42,000 X 7/12 = \$24,500

*** \$33,600 X 5/12 = \$14,000

2011 Depreciation—Sum-of-the-Years'-Digits = \$38,500

(d) **2010 40% X (\$150,000) X 5/12 = \$25,000**

2011 40% X (\$150,000 – \$25,000) = \$50,000

OR

1st full year (40% X \$150,000) = \$60,000

2nd full year [40% X (\$150,000 – \$60,000)] = \$36,000

2010 Depreciation = 5/12 X \$60,000 = \$25,000

2011 Depreciation = 7/12 X \$60,000 = \$35,000
5/12 X \$36,000 = 15,000
\$50,000

EXERCISE 11-6 (20–30 minutes)

(a) 2010 Straight-line $\frac{\$304,000 - \$16,000}{8} = \$36,000/\text{year}$

3 months—Depreciation $(\$36,000 \times 3/12) = \$9,000$

(b) 2010 Output $\frac{\$304,000 - \$16,000}{40,000} = \$7.20/\text{output unit}$

1,000 units $\times \$7.20 = \$7,200$

(c) 2010 Working hours $\frac{\$304,000 - \$16,000}{20,000} = \$14.40/\text{hour}$

525 hours $\times \$14.40 = \$7,560$

(d) $8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 36$ OR $\frac{n(n+1)}{2} = \frac{8(9)}{2} = 36$

| | | Allocated to | | |
|----------------------------------|----------|-----------------|-----------------|-----------------|
| Sum-of-the-years'-digits | Total | 2010 | 2011 | 2012 |
| Year 1 $8/36 \times \$288,000 =$ | \$64,000 | \$16,000 | \$48,000 | |
| 2 $7/36 \times \$288,000 =$ | \$56,000 | | 14,000 | \$42,000 |
| 3 $6/36 \times \$288,000 =$ | \$48,000 | | | <u>12,000</u> |
| | | <u>\$16,000</u> | <u>\$62,000</u> | <u>\$54,000</u> |

2012: \$54,000 = (9/12 of 2nd year of machine's life plus 3/12 of 3rd year of machine's life)

(e) Double-declining-balance 2011: $1/8 \times 2 = 25\%$.

2010: $25\% \times \$304,000 \times 3/12 = \underline{\$19,000}$

2011: $25\% \times (\$304,000 - \$19,000) = \underline{\$71,250}$

OR

1st full year $(25\% \times \$304,000) = \$76,000$

EXERCISE 11-6 (Continued)

2nd full year $[25\% \times (\$304,000 - \$76,000)] = \$57,000$

2010 Depreciation $3/12 \times \$76,000 = \underline{\$19,000}$

2011 Depreciation $9/12 \times \$76,000 = \$57,000$

$3/12 \times \$57,000 = \underline{14,250}$

\$71,250

EXERCISE 11-7 (25–35 minutes)

Methods of Depreciation

| Description | Date | Cost | Residual | Life | Method | Accum. Depr. | 2011 Depr. |
|-------------|--------------|------------|----------|------|---------|--------------|--------------|
| | Purchased | | | | | to 2010 | |
| A | 2/12/09 | \$159,000 | \$16,000 | 10 | (a) SYD | \$37,700 | (b) \$22,100 |
| B | 8/15/08 | (c) 79,000 | 21,000 | 5 | SL | 29,000 | (d) 11,600 |
| C | 7/21/07 | 88,000 | 28,500 | 8 | DDB | (e) 55,516 | (f) 3,984 |
| D | (g) 10/12/09 | 219,000 | 69,000 | 5 | SYD | 70,000 | (h) 35,000 |

Machine A—Testing the methods

| | | |
|-------------------------------------|-----------------|---------------------------------------------------------------------------|
| (a) Straight-Line Method for 2009 | \$ 7,150 | $[(\$159,000 - \$16,000) \div 10] \times 1/2$ |
| Straight-Line Method for 2010 | <u>\$14,300</u> | |
| Total Straight Line | <u>\$21,450</u> | |
| Double-Declining-Balance for 2009 | \$15,900 | $(\$159,000 \times .2 \times .5)$ |
| Double-Declining-Balance for 2010 | <u>\$28,620</u> | $[(\$159,000 - \$15,900) \times .2]$ |
| Total Double Declining Balance | <u>\$44,520</u> | |
| Sum-of-the-Years-Digits for 2009 | \$13,000 | $[(\$159,000 - \$16,000) \times 10/55 \times .5]$ |
| Sum-of-the-Years-Digits for 2010 | <u>\$24,700</u> | $(\$143,000 \times 10/55 \times 1/2) + (\$143,000 \times 9/55 \times .5)$ |
| Total Sum-of-the-Years-Digits | <u>\$37,700</u> | |
| Method used must be | SYD | |
| (b) Using SYD, 2011 Depreciation is | <u>\$22,100</u> | $(\$143,000 \times 9/55 \times 1/2) + (\$143,000 \times 8/55 \times .5)$ |

EXERCISE 11-7 (Continued)

Machine B—Computation of the cost

- (c) Asset has been depreciated for 2 1/2 years using the straight-line method.

Annual depreciation is then equal to \$29,000 divided by 2 1/2 or \$11,600.
11,600 times 5 plus the residual value is equal to the cost.
Cost is \$79,000 [(\$11,600 X 5) + \$21,000].

- (d) Using SL, 2011 Depreciation is \$11,600.

Machine C—Using the double-declining-balance method of depreciation

| | | |
|-----------------------------------------|-----------------|------------------------------------|
| (e) 2007's depreciation is | \$11,000 | $(\$88,000 \times .25 \times .5)$ |
| 2008's depreciation is | \$19,250 | $(\$88,000 - \$11,000) \times .25$ |
| 2009's depreciation is | \$14,438 | $(\$88,000 - \$30,250) \times .25$ |
| 2010's depreciation is | <u>\$10,828</u> | $(\$88,000 - \$44,688) \times .25$ |
| Accumulated Depreciation at 12/31/10 | <u>\$55,516</u> | |

- (f) Using DDB, 2011 Depreciation is \$3,984, which results in the carrying value of the machine equal to the residual value.

Machine D—Computation of Year Purchased

| | | |
|---------------------------------|-----------------|------------------------------------------------------------------------------|
| (g) First Half Year using SYD = | \$25,000 | $[(\$219,000 - \$69,000) \times 5/15 \times .5]$ |
| Second Year using SYD = | <u>\$45,000</u> | $(\$150,000 \times 5/15 \times .5) +$ $(\$150,000 \times 4/15 \times .5)$ |
| | <u>\$70,000</u> | |

Thus the asset must have been purchased on October 12, 2009

- (h) Using SYD, 2011 Depreciation is \$35,000 $(\$150,000 \times 4/15 \times .5) +$
 $(\$150,000 \times 3/15 \times .5)$

EXERCISE 11-8 (20–25 minutes)

Old Machine

| | | |
|--------------|-------------------|-----------------|
| June 1, 2008 | Purchase | \$31,800 |
| | Freight..... | 200 |
| | Installation..... | 500 |
| | Total cost | <u>\$32,500</u> |

Annual depreciation charge: $(\$32,500 - \$2,500) \div 10 = \$3,000$

On June 1, 2009, debit the old machine for \$2,700 and reduce the book value by \$900; the revised total cost is \$34,300 $(\$32,500 + \$2,700 - \$900)$; thus the revised annual depreciation charge is: $(\$34,300 - \$2,500 - \$3,000) \div 9 = \$3,200$.

Book value, old machine, June 1, 2012:

| | |
|-----------------------------------------------------|-----------------|
| $[\$34,300 - \$3,000 - (\$3,200 \times 3)] =$ | \$ 21,700 |
| Fair value | <u>(20,000)</u> |
| Loss on exchange | 1,700 |
| Cost of removal | 75 |
| Total loss | <u>\$ 1,775</u> |

(Note to instructor: The above computation is done to determine whether there is a gain or loss from the exchange of the old machine with the new machine and to show how the cost of removal might be reported.

New Machine

| | | |
|----------------------|-----------------------------------|-----------------|
| Basis of new machine | Cash paid $(\$35,000 - \$20,000)$ | \$15,000 |
| | Fair value of old machine | 20,000 |
| | Installation cost | <u>1,500</u> |
| | Total cost of new machine | <u>\$36,500</u> |

Depreciation for the year beginning June 1, 2012 = $(\$36,500 - \$4,000) \div 10 = \$3,250$.

EXERCISE 11-9 (15–20 minutes)

| (a) | Component | Cost | Estimated Residual | Depreciable Cost | Estimated Life | Depreciation per Year |
|-----|-----------|------------------|--------------------|------------------|----------------|-----------------------|
| | A | \$ 40,500 | \$ 5,500 | \$ 35,000 | 10 | \$ 3,500 |
| | B | 33,600 | 4,800 | 28,800 | 9 | 3,200 |
| | C | 36,000 | 3,600 | 32,400 | 8 | 4,050 |
| | D | 19,000 | 1,500 | 17,500 | 7 | 2,500 |
| | E | 23,500 | 2,500 | 21,000 | 6 | 3,500 |
| | | <u>\$152,600</u> | <u>\$17,900</u> | <u>\$134,700</u> | | <u>\$16,750</u> |

| | | |
|-----------------------------------------|--------|--------|
| Depreciation Expense | 16,750 | |
| Accumulated Depreciation—Equipment..... | | 16,750 |

| | | | |
|-----|------------------------------------------|---------|--------|
| (b) | Equipment..... | 40,000 | |
| | Accumulated Depreciation—Equipment | 19,200* | |
| | Loss on Disposal of Equipment | 14,400 | |
| | Equipment | | 33,600 |
| | Cash | | 40,000 |

$$*\$3,200 \times 6 = \$19,200$$

EXERCISE 11-10 (10–15 minutes)

$$\text{Sum-of-the-years'-digits} = \frac{8 \times 9}{2} = 36$$

Using Y to stand for the years of remaining life:

$$Y/36 \times (\$502,000 - \$70,000) = \$60,000$$

Multiplying both sides by 36:

$$\$432,000 \times Y = \$2,160,000$$

$$Y = \$2,160,000 \div \$432,000$$

$$Y = 5$$

The year in which there are five remaining years of life at the beginning of that given year is 2010.

EXERCISE 11-11 (10–15 minutes)

(a) No correcting entry is necessary because changes in estimate are handled in the current and prospective periods.

(b) Revised annual charge

Book value as of 1/1/2011 [$\$52,000 - (\$6,000 \times 5)$] = \$22,000

Remaining useful life, 5 years (10 years – 5 years)

Revised residual value, \$4,500

$(\$22,000 - \$4,500) \div 5 = \$3,500$

| | | |
|------------------------------------------|-------|-------|
| Depreciation Expense—Equipment | 3,500 | |
| Accumulated Depreciation—Equipment | | 3,500 |

EXERCISE 11-12 (20–25 minutes)

(a) 1984–1993— $(\$1,900,000 - \$60,000) \div 40 = \$46,000/\text{yr.}$

(b) 1994–2011—Building $(\$1,900,000 - \$60,000) \div 40 =$ \$46,000/yr.
Addition $(\$470,000 - \$20,000) \div 30 =$ 15,000/yr.
\$61,000/yr.

(c) No adjusting entry required.

(d) Revised annual depreciation

Building

| | |
|---------------------------------------------------|------------------------|
| Book value: $(\$1,900,000 - \$1,288,000^*)$ | \$612,000 |
| Residual value | <u>(60,000)</u> |
| | 552,000 |
| Remaining useful life | \div <u>32 years</u> |
| Annual depreciation | <u>\$ 17,250</u> |

* $\$46,000 \times 28 \text{ years} = \$1,288,000$

EXERCISE 11-12 (Continued)

Addition

| | |
|---------------------------------------------|-------------------|
| Book value: (\$470,000 – \$270,000**) | \$200,000 |
| Residual value | <u>(20,000)</u> |
| | 180,000 |
| Remaining useful life..... | ÷ <u>32 years</u> |
| Annual depreciation..... | <u>\$ 5,625</u> |

****\$15,000 X 18 years = \$270,000**

Annual depreciation expense—building (\$17,250 + \$5,625) \$22,875

EXERCISE 11-13 (15–20 minutes)

(a) $\$2,400,000 \div 40 = \$60,000$

| | | |
|-------------------------------------------|---------|---------|
| (b) Loss on Disposal of Plant Assets..... | 90,000 | |
| Accumulated Depreciation—Building | | |
| (\$180,000 X 20/40) | 90,000 | |
| Building..... | | 180,000 |
| Building..... | 300,000 | |
| Cash | | 300,000 |

Note: The most appropriate entry would be to remove the old roof and record a loss on disposal, because the cost of the old roof is given. Another alternative would be to debit Accumulated Depreciation on the theory that the replacement extends the useful life of the building. The entry in this case would be as follows:

| | | |
|-----------------------------------------|---------|---------|
| Accumulated Depreciation—Building | 300,000 | |
| Cash | | 300,000 |

As indicated, this approach does not seem as appropriate as the first approach.

EXERCISE 11-13 (Continued)

(c) No entry necessary.

(d) (Assume the cost of the old roof is removed)

| | |
|-----------------------------------------------------------|--------------------|
| Building (\$2,400,000 – \$180,000 + \$300,000)..... | \$2,520,000 |
| Accumulated Depreciation (\$60,000 X 20 – \$90,000) | <u>(1,110,000)</u> |
| | 1,410,000 |
| Remaining useful life | ÷ 25 years |
| Depreciation—2011 (\$1,410,000 ÷ 25) | <u>\$ 56,400</u> |

Note to Instructor:

If it is assumed that the cost of the new roof is debited to Accumulated Depreciation:

Book value of the building prior to the replacement

| | |
|----------------------------------------------|------------------|
| of roof \$2,400,000 – (\$60,000 X 20) =..... | \$1,200,000 |
| Cost of new roof | <u>300,000</u> |
| | \$1,500,000 |
| Remaining useful life | ÷ 25 years |
| Depreciation—2011 (\$1,500,000 ÷ 25) | <u>\$ 60,000</u> |

EXERCISE 11-14 (20–25 minutes)

| | | | |
|-----|----------------------------------------------------|--------------|------------------|
| (a) | Repair Expense..... | 500 | |
| | Equipment..... | | 500 |
| (b) | The proper ending balance in the asset account is: | | |
| | January 1 balance | | \$133,000 |
| | Add: New equipment: | | |
| | Purchases | \$32,000 | |
| | Freight | 700 | |
| | Installation | <u>2,500</u> | |
| | | | 35,200 |
| | Less: Cost of equipment sold | | <u>23,000</u> |
| | December 31 balance | | <u>\$145,200</u> |

(1) Straight-line: \$145,200 ÷ 10 = \$14,520

EXERCISE 11-14 (Continued)

(2) Sum-of-the-years'-digits: $10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 55$

OR $\frac{n(n + 1)}{2} = \frac{10(11)}{2} = 55$

For equipment purchased in 2009: \$110,000 (\$133,000 – \$23,000) of the cost of equipment purchased in 2009, is still on hand.

| | |
|----------------------------------------------------------|-----------------|
| 8/55 X \$110,000 = | \$16,000 |
| For equipment purchased in 2011: 10/55 X \$35,200 =..... | <u>6,400</u> |
| Total | <u>\$22,400</u> |

EXERCISE 11-15 (25–35 minutes)

| (a) | 2006–2011 | | | |
|--------------------------------------|-----------|-----------|----------|-----------|
| | 2005 | Incl. | 2012 | Total |
| (1) \$240,000 – \$21,000 = \$219,000 | | | | |
| \$219,000 ÷ 12 = \$18,250 | | | | |
| per yr. (\$50 per day) | | | | |
| 133*/365 of \$18,250 = | \$ 6,650 | | | |
| 2006–2011 Include. (6 X \$18,250) | | \$109,500 | | |
| 68/365 of \$18,250 = | | | \$ 3,400 | \$119,550 |
| (2) | 0 | 109,500 | 18,250 | 127,750 |
| (3) | 18,250 | 109,500 | 0 | 127,750 |
| (4) | 9,125 | 109,500 | 9,125 | 127,750 |
| (5) 4/12 of \$18,250 | 6,083 | | | |
| 2006–2011 Inc. | | 109,500 | | |
| 3/12 of \$18,250 | | | 4,563 | 120,146 |
| (6) | 0 | 109,500 | 0 | 109,500 |
| *(11 + 30 + 31 + 30 + 31) | | | | |

(b) The most accurate distribution of cost is given by methods 1 and 5 if it is assumed that straight-line depreciation is satisfactory. Reasonable accuracy is normally given by 2, 3, or 4. The simplest of the applications are 6, 2, 3, 4, 5, and 1, in about that order. Methods 2, 3, and 4 combine reasonable accuracy with simplicity of application.

EXERCISE 11-16 (10-15 minutes)

(a) $(\$50,000 - 0) \div 10 = \underline{\$5,000}$

| (b) Component | Depreciation Expense | | |
|----------------------|-----------------------------|---|----------------|
| Tires | $(\$ 6,000 - 0) \div 2$ | = | \$3,000 |
| Transmission | $(\$10,000 - 0) \div 5$ | = | 2,000 |
| Trucks | $(\$34,000 - 0) \div 10$ | = | <u>3,400</u> |
| | | | <u>\$8,400</u> |

- (c) A company would want to use component depreciation if it believed this method produced more accurate results.

EXERCISE 11-17 (10-15 minutes)

| (a) Component | Depreciation Expense | | |
|-------------------------|-----------------------------|---|-----------------|
| Building structure | $\text{€}4,200,000 \div 60$ | = | € 70,000 |
| Building engineering | $2,100,000 \div 30$ | = | 70,000 |
| Building external works | $700,000 \div 30$ | = | <u>23,333</u> |
| | | | <u>€163,333</u> |

| | | |
|----------------------------------------------|------------------|------------------|
| (b) Building Engineering..... | 2,300,000 | |
| Accumulated Depreciation | | |
| $(\text{€}2,100,000 \times 20/30)$ | 1,400,000 | |
| Loss on Disposal of Plant Assets..... | 700,000 | |
| Building Engineering..... | | 2,100,000 |
| Cash | | 2,300,000 |

EXERCISE 11-18 (10–15 minutes)

| | | | |
|------------|------------------------------------------------|--------------------------|------------------|
| (a) | | December 31, 2010 | |
| | Loss on Impairment..... | 1,000,000 | |
| | Accumulated Depreciation—Equipment..... | | 1,000,000 |

| | |
|----------------------------------------------|---------------------------|
| Cost..... | €9,000,000 |
| Accumulated depreciation | <u>(1,000,000)</u> |
| Carrying amount | 8,000,000 |
| Fair value less cost of disposal..... | <u>(7,000,000)</u> |
| Loss on impairment..... | <u>€1,000,000</u> |

| | | | |
|------------|------------------------------------------------|--------------------------|------------------|
| (b) | | December 31, 2011 | |
| | Depreciation Expense..... | 1,750,000 | |
| | Accumulated Depreciation—Equipment..... | | 1,750,000 |

| | |
|-----------------------------------|--------------------------|
| New carrying amount..... | €7,000,000 |
| Useful life | <u>÷ 4 years</u> |
| Depreciation per year..... | <u>€1,750,000</u> |

| | | | |
|------------|-----------------------------------------|----------------------------------------------------------|------------------|
| (c) | | Accumulated Depreciation—Equipment..... 1,800,000 | |
| | Recovery of Impairment Loss..... | | 1,800,000 |

EXERCISE 11-19 (15–20 minutes)

| | | | |
|------------|------------------------------------------------|------------------------------------------|------------------|
| (a) | | Loss on Impairment..... 3,600,000 | |
| | Accumulated Depreciation—Equipment..... | | 3,600,000 |

| | |
|---------------------------------------|---------------------------|
| Cost..... | €9,000,000 |
| Accumulated depreciation | <u>(1,000,000)</u> |
| Carrying amount | 8,000,000 |
| Less: Recoverable amount | <u>4,400,000</u> |
| Loss on impairment..... | <u>€3,600,000</u> |

EXERCISE 11-19 (Continued)

(b) No entry necessary. Depreciation is not taken on assets intended to be sold.

| | | | |
|-----|------------------------------------------|---------------|---------------------|
| (c) | Accumulated Depreciation—Equipment | 680,000 | |
| | Recovery of Loss on Impairment | | 680,000 |
| | Fair value | €5,100,000 | |
| | Less: Cost of disposal | <u>20,000</u> | 5,080,000 |
| | Carrying amount | | <u>(4,400,000*)</u> |
| | Recovery of impairment loss | | <u>€ 680,000</u> |
| | *(€9,000,000 – €1,000,000 – €3,600,000) | | |

EXERCISE 11-20 (15–20 minutes)

| | | | |
|-----|-----------------------------------------|-------------------|---------|
| (a) | December 31, 2010 | | |
| | Loss on Impairment | 200,000 | |
| | Accumulated Depreciation—Equipment | | 200,000 |
| | Cost | \$900,000 | |
| | Accumulated depreciation | <u>(400,000)</u> | |
| | Carrying amount | 500,000 | |
| | Recoverable amount | <u>(300,000*)</u> | |
| | Loss on impairment | <u>\$200,000</u> | |

*Use \$300,000 (value-in-use) because it is greater than fair value less cost of disposal.

(b) It should be reported in the other income and expense section in the income statement.

| | | | |
|-----|--------------------------------------------|--------|--------|
| (c) | Accumulated Depreciation—Equipment | 45,000 | |
| | Recovery of Impairment Loss | | |
| | [\$270,000 – (\$300,000 – \$75,000)] | | 45,000 |

EXERCISE 11-20 (Continued)

- (d) To determine whether an asset is impaired, on an annual basis, companies review the asset for indicators of impairment—that is, a decline in the asset’s cash-generating ability through use or sale. If impairment indicators are present, then the company compares the asset’s recoverable amount with its carrying amount. If the carrying amount is higher than the recoverable amount, the difference is an impairment loss. Recoverable value is defined as the higher of fair value less costs to sell or value-in-use.

EXERCISE 11-21 (10–15 minutes)

Cost per barrel of oil:

$$\text{Initial payment} = \frac{\$600,000}{250,000} = \$2.40$$

$$\text{Rental} = \frac{\$31,500}{18,000} = 1.75$$

$$\text{Premium, 5\% of \$65} = 3.25$$

$$\text{Reconditioning of land} = \frac{\$30,000}{250,000} = .12$$

$$\text{Total cost per barrel} \quad \underline{\underline{\$7.52}}$$

EXERCISE 11-22 (15–20 minutes)

$$\text{Depletion base: } \$1,250,000 + \$90,000 - \$100,000 + \$200,000 = \$1,440,000$$

$$\text{Depletion rate: } \$1,440,000 \div 60,000 = \$24/\text{ton}$$

- (a) Per unit mineral cost: \$24/ton
(b) 12/31/10 inventory: \$24 X 6,000 tons = \$144,000
(c) Cost of goods sold 2010: \$24 X 24,000 tons = \$576,000

EXERCISE 11-23 (15–20 minutes)

(a)
$$\frac{\$850,000 + \$170,000 + \$40,000^* - \$100,000}{12,000,000} = .08 \text{ depletion per unit}$$

***Note to instructor:** The \$40,000 should be depleted because it is an environmental liability provision.

2,500,000 units extracted X \$.08 = \$200,000 depletion for 2010

(b) 2,200,000 units sold X \$.08 = \$176,000 charged to cost of goods sold for 2010

EXERCISE 11-24 (10-15 minutes)

| <u>December 31, 2010</u> | | |
|-------------------------------------------|--------|--------|
| Land..... | 20,000 | |
| Unrealized Gain on Revaluation—Land | | 20,000 |
| <u>December 31, 2011</u> | | |
| Unrealized Gain on Revaluation—Land..... | 20,000 | |
| Loss on Impairment | 20,000 | |
| Land | | 40,000 |
| <u>December 31, 2012</u> | | |
| Land..... | 25,000 | |
| Recovery of Impairment Loss | | 20,000 |
| Unrealized Gain on Revaluation—Land | | 5,000 |

EXERCISE 11-25 (10-15 minutes)

| <u>Value at December 31</u> | <u>Accumulated Other Comprehensive Income</u> | <u>Other Comprehensive Income</u> | <u>Recognized in Net Income</u> |
|---------------------------------|-------------------------------------------------------|-------------------------------------------|-------------------------------------|
| 2008 | \$50,000 | \$50,000 | — |
| 2009 | — | (50,000) | (\$40,000) |
| 2010 | — | — | 25,000 |
| 2011 | 10,000 | 10,000 | 15,000 |
| 2012 | 60,000 | 50,000 | — |

EXERCISE 11-26 (15-20 minutes)

| | | | |
|--------------------------------------------------|--------|--|--------|
| <u>December 31, 2008</u> | | | |
| Land (\$450,000 – \$400,000) | 50,000 | | |
| Unrealized Gain on Revaluation—Land..... | | | 50,000 |
| <u>December 31, 2009</u> | | | |
| Unrealized Gain on Revaluation—Land | 50,000 | | |
| Loss on Impairment (\$400,000 – \$360,000) | 40,000 | | |
| Land (\$450,000 – \$360,000) | | | 90,000 |
| <u>December 31, 2010</u> | | | |
| Land (\$385,000 – \$360,000) | 25,000 | | |
| Recovery of Impairment Loss | | | 25,000 |
| <u>December 31, 2011</u> | | | |
| Land (\$410,000 – \$385,000) | 25,000 | | |
| Recovery of Impairment Loss | | | |
| (\$40,000 – \$25,000) | | | 15,000 |
| Unrealized Gain on Revaluation—Land..... | | | 10,000 |
| <u>December 31, 2012</u> | | | |
| Land (\$460,000 – \$410,000) | 50,000 | | |
| Unrealized Gain on Revaluation—Land..... | | | 50,000 |

EXERCISE 11-27 (10-15 minutes)

| | | | |
|----------------------------------------------------------------------------------|--------|--|--------|
| (a) | | | |
| <u>January 1, 2009</u> | | | |
| Equipment | 12,000 | | |
| Cash..... | | | 12,000 |
| <u>December 31, 2009</u> | | | |
| Depreciation Expense | 2,000 | | |
| Accumulated Depreciation—Equipment | | | 2,000 |
| (b) | | | |
| <u>December 31, 2010</u> | | | |
| Depreciation Expense | 2,000 | | |
| Accumulated Depreciation—Equipment | | | 2,000 |
| | | | |
| Accumulated Depreciation—Equipment..... | 4,000 | | |
| Loss on Impairment | 1,000 | | |
| Equipment (€12,000 – €7,000)..... | | | 5,000 |
| (c) Depreciation expense—2011: (€12,000 – €5,000) ÷ 4 = <u>€1,750</u> | | | |

EXERCISE 11-28 (15–20 minutes)**(a) Asset turnover ratio:**

$$\frac{\$10,301}{\frac{\$13,659 + \$14,320}{2}} = .736 \text{ times}$$

(b) Rate of return on assets:

$$\frac{\$676}{\frac{\$13,659 + \$14,320}{2}} = 4.83\%$$

EXERCISE 11-28 (Continued)

(c) Profit margin on sales:

$$\frac{\$676}{\$10,301} = 6.56\%$$

(d) The asset turnover ratio times the profit margin on sales provides the rate of return on assets computed for Eastman Kodak as follows:

| | | | | |
|------------------------|---|----------------|---|------------------|
| Profit margin on sales | X | Asset Turnover | | Return on Assets |
| 6.56% | X | .736 | = | 4.83% |

Note the answer 4.83% is the same as the rate of return on assets computed in (b) above.

*EXERCISE 11-29 (20-25 minutes)

| | | | |
|------------------------------------------|-------|--|-------|
| (a) | | | |
| <u>December 31, 2008</u> | | | |
| Depreciation Expense..... | 1,000 | | |
| Accumulated Depreciation—Equipment..... | | | 1,000 |
| <u>December 31, 2009</u> | | | |
| Depreciation Expense..... | 1,000 | | |
| Accumulated Depreciation—Equipment..... | | | 1,000 |
| Accumulated Depreciation—Equipment | 2,000 | | |
| Equipment (\$10,000 – \$8,800)..... | | | 1,200 |
| Unrealized Gain on Revaluation— | | | |
| Equipment | | | 800 |

EXERCISE 11-29 (Continued)

| <u>December 31, 2010</u> | | |
|------------------------------------------------|-------|-------|
| Depreciation Expense ($\$8,800 \div 8$)..... | 1,100 | |
| Accumulated Depreciation—Equipment | | 1,100 |
| Accumulated Other Comprehensive Income..... | 100 | |
| Retained Earnings ($\$1,100 - \$1,000$)..... | | 100 |
| <u>December 31, 2011</u> | | |
| Depreciation Expense | 1,100 | |
| Accumulated Depreciation—Equipment | | 1,100 |
| Accumulated Other Comprehensive Income..... | 100 | |
| Retained Earnings..... | | 100 |
| Accumulated Depreciation—Equipment | | |
| ($\$1,100 \times 2$) | 2,200 | |
| Loss on Impairment | 1,000 | |
| Unrealized Gain on Revaluation | | |
| ($\$800 - \$100 - \$100$) | 600 | |
| Equipment ($\$8,800 - \$5,000$)..... | | 3,800 |

- (b) Sterling would probably not use revaluation accounting for assets whose fair value is lower than their carrying value. When the fair value of property and buildings is less than their carrying value, the difference must be reported as a loss on impairment which reduces reported net income.

TIME AND PURPOSE OF PROBLEMS

Problem 11-1 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to compute depreciation expense using a number of different depreciation methods. The problem is complicated because the proper cost of the machine to be depreciated must be determined. For example, purchase discounts and freight charges must be considered. In addition, the student is asked to select a depreciation method that will allocate less depreciation in the early years of the machine's life than in the later years.

Problem 11-2 (Time 25–35 minutes)

Purpose—to provide the student with an opportunity to compute depreciation expense using the following methods: straight-line, units-of-output, working hours, sum-of-the-years'-digits, and declining balance. The problem is straightforward and provides an excellent review of the basic computational issues involving depreciation methods.

Problem 11-3 (Time 40–50 minutes)

Purpose—to provide the student with an opportunity to compute depreciation expense using a number of different depreciation methods. Before the proper depreciation expense can be computed, the accounts must be corrected for a number of errors made by the company in its accounting for the assets. An excellent problem for reviewing the proper accounting for plant assets and related depreciation expense.

Problem 11-4 (Time 45–60 minutes)

Purpose—to provide the student with an opportunity to correct the improper accounting for Semitrucks and determine the proper depreciation expense. The student is required to compute separately the errors arising in determining or entering depreciation or in recording transactions affecting Semitrucks.

Problem 11-5 (Time 25–35 minutes)

Purpose—to provide the student with a comprehensive problem related to property, plant, and equipment. The student must determine depreciable bases for assets, including capitalized interest, and prepare depreciation entries using various methods of depreciation.

Problem 11-6 (Time 45–60 minutes)

Purpose—to provide the student with an opportunity to solve a complex problem involving a number of plant assets. A number of depreciation computations must be made, specifically straight-line, 150% declining balance, and sum-of-the-years'-digits. In addition, the cost of assets acquired is difficult to determine.

Problem 11-7 (Time 30–35 minutes)

Purpose—to provide the student with the opportunity to solve a moderate problem involving a machinery purchase and the depreciation computations using straight-line, activity, sum-of-the-years'-digits, and the double-declining-balance methods, first for full periods and then for partial periods.

Problem 11-8 (Time 25–35 minutes)

Purpose—to provide the student with an opportunity to compute depreciation expense using a number of different depreciation methods. The purpose of computing the depreciation expense is to determine which method will result in the maximization of net income and which will result in the minimization of net income over a three-year period. An excellent problem for reviewing the fundamentals of depreciation accounting.

Problem 11-9 (Time 15–25 minutes)

Purpose—to provide the student with an opportunity to analyze impairments for assets to be used and assets to be disposed of.

Time and Purpose of Problems (Continued)

Problem 11-10 (Time 30–35 minutes)

Purpose—to provide the student with an opportunity to compute the amount of an impairment loss. The student is also required to prepare journal entries to record an impairment loss and a reversal of an impairment loss.

Problem 11-11 (Time 15–20 minutes)

Purpose—to provide the student with a problem involving depletion and computation of profit or loss. The student is asked to explain how to account for exploration and evaluation costs.

Problem 11-12 (Time 25–30 minutes)

Purpose—to provide the student with a problem involving the computation of estimated depletion and depreciation costs associated with a tract of mineral land. The student must compute depletion and depreciation on a units-of-production basis (tons mined). A portion of the cost of machinery associated with the product must be allocated over different periods. The student may experience some difficulty with this problem.

***Problem 11-13** (Time 20-25 minutes)

Purpose—to provide the student with the opportunity to record land revaluation adjustments for 3 years. The student is also required to determine the amount of other comprehensive income, impairment loss, and accumulated other comprehensive income for 2 years.

***Problem 11-14** (Time 25-35 minutes)

Purpose—to provide the student with an opportunity to record equipment revaluation adjustments for 3 years. The student is also required to determine the amount of other comprehensive income, depreciation expense, impairment loss, and accumulated other comprehensive income for 2 years.

SOLUTIONS TO PROBLEMS

PROBLEM 11-1

(a) 1. Depreciable Base Computation:

| | |
|-----------------------------------|------------------------|
| Purchase price | \$85,000 |
| Less: Purchase discount (2%)..... | 1,700 |
| Freight-in..... | 800 |
| Installation | <u>3,800</u> |
| Cost..... | 87,900 |
| Less: Salvage value | <u>1,500</u> |
| Depreciation base | <u><u>\$86,400</u></u> |

2010—Straight line: $(\$86,400 \div 8 \text{ years}) \times 2/3 \text{ year} = \underline{\underline{\$7,200}}$

2. Sum-of-the-years'-digits for 2011

| | Machine Year | Total Depreciation | 2010 | 2011 |
|---|--------------------------|-----------------------|-----------|------------------------|
| 1 | $8/36 \times \$86,400 =$ | \$19,200 | \$12,800* | \$ 6,400** |
| 2 | $7/36 \times \$86,400 =$ | \$16,800 | | <u>11,200***</u> |
| | | | | <u><u>\$17,600</u></u> |

* $\$19,200 \times 2/3 = \$12,800$

** $\$19,200 \times 1/3 = \$6,400$

*** $\$16,800 \times 2/3 = \$11,200$

3. Double-declining-balance for 2010

$(\$87,900 \times 25\% \times 2/3) = \underline{\underline{\$14,650}}$

(b) An activity method.

PROBLEM 11-2

| | | <u>Depreciation Expense</u> | |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------|
| | | <u>2010</u> | <u>2011</u> |
| (a) | Straight-line: $(€89,000 - €5,000) \div 7 = €12,000/\text{yr.}$ 2010: €12,000 X 7/12 2011: €12,000 | €7,000 | €12,000 |
| (b) | Units-of-output: $(€89,000 - €5,000) \div 525,000 \text{ units} = €.16/\text{unit}$ 2010: €0.16 X 55,000 2011: €0.16 X 48,000 | 8,800 | 7,680 |
| (c) | Working hours: $(€89,000 - €5,000) \div 42,000 \text{ hrs.} = €2.00/\text{hr.}$ 2010: €2.00 X 6,000 2011: €2.00 X 5,500 | 12,000 | 11,000 |
| (d) | Sum-of-the-years'-digits: $1 + 2 + 3 + 4 + 5 + 6 + 7 = 28 \text{ or } \frac{n(n+1)}{2} = \frac{7(8)}{2} = 28$ 2010: $7/28 \times €84,000 \times 7/12$ 2011: $7/28 \times €84,000 \times 5/12 =$ $6/28 \times €84,000 \times 7/12 =$ | 12,250 € 8,750 <u>10,500</u> <u>€19,250</u> | 19,250 |
| (e) | Declining-balance: Rate = $2/7$ 2010: $7/12 \times 2/7 \times €89,000$ 2011: $2/7 \times (€89,000 - €14,833) = €21,191$ OR 2011: $5/12 \times 2/7 \times €89,000 =$ $2/7 \times (€89,000 - €25,428)$ X $7/12$ | 14,833 €10,595 <u>10,595</u> <u>€21,190*</u> | 21,190 |

*Difference due to rounding.

| |
|---------------------|
| PROBLEM 11-3 |
|---------------------|

| | | | |
|-----|---------------------------------------------|--------|--------|
| (a) | Depreciation Expense—Asset A | 3,900 | |
| | Accumulated Depreciation—Asset A | | |
| | (5/55 X [£46,000 – £3,100]) | | 3,900 |
| | Accumulated Depreciation—Asset A | 35,100 | |
| | Asset A (£46,000 – £13,000)..... | | 33,000 |
| | Gain on Disposal of Plant Assets..... | | 2,100 |
| (b) | Depreciation Expense—Asset B | 6,720 | |
| | Accumulated Depreciation—Asset B | | |
| | ([£51,000 – £3,000] ÷ 15,000 X 2,100) | | 6,720 |
| (c) | Depreciation Expense—Asset C | 6,000 | |
| | Accumulated Depreciation—Asset C | | |
| | ([£80,000 – £15,000 – £5,000] ÷ 10) | | 6,000 |
| (d) | Asset E | 28,000 | |
| | Retained Earnings | | 28,000 |
| | Depreciation Expense—Asset E..... | 5,600* | |
| | Accumulated Depreciation—Asset E | | 5,600 |

*(£28,000 X .20)

Note: No correcting entry is needed for asset D. In 2010, Eshkol records depreciation expense of \$80,000 X (10% X 2) = \$16,000.

PROBLEM 11-4

| (a) | Per Company Books | | | As Adjusted | | | Net |
|---------------|-------------------------|--------------------------------------|-----------------------------------|-------------------------|---------------------------------------|-----------------------------------|-----------|
| | Semitrucks dr. (cr.) | Acc. Dep. Semitrucks dr. (cr.) | Retained Earnings dr. (cr.) | Semitrucks dr. (cr.) | Acc. Dep., Semitrucks dr. (cr.) | Retained Earnings dr. (cr.) | |
| 1/1/08 | ¥ 94,000 | ¥(30,200) | | ¥94,000 | ¥(30,200) | | |
| 7/1/08 | 22,000 | | | 40,000 | | | |
| | | | | (30,000) | 9,000 | ¥ 3,000 ¹ | ¥ 3,000 |
| 12/31/08 | | (21,000) | \$21,000 | | (19,800) | 19,800 ² | (1,200) |
| 12/31/08 | 116,000 | (51,200) | 21,000 | 104,000 | (41,000) | 22,800 | 1,800 |
| 1/1/09 | (3,500) | | | (18,000) | 14,400 | 100 ³ | 100 |
| 12/31/09 | | (22,500) | 22,500 | | (17,200) | 17,200 ⁴ | (5,300) |
| 12/31/09 | 112,500 | (73,700) | 43,500 | 86,000 | (43,800) | 40,100 | (3,400) |
| 7/1/10 | 42,000 | | | 42,000 | | | |
| 7/1/10 | (2,500) | | (700) | (24,000) | 14,400 | 6,400 ⁵ | 7,100 |
| 12/31/10 | | (25,050) | 25,050 | | (16,800) | 16,800 ⁶ | (8,250) |
| 12/31/10 | 152,000 | (98,750) | 67,850 | 104,000 | (46,200) | 63,300 | (4,550) |
| 12/31/11 | | (30,400) | 30,400 | | (16,400) | 16,400 ⁷ | (14,000) |
| 12/31/11 | ¥152,000 | ¥(129,150) | ¥98,250 | ¥104,000 | ¥(62,600) | ¥79,700 | ¥(18,550) |
| Income effect | | | | | | | |

¹Implied fair market value of Truck #3 (¥40,000 – ¥22,000)
 Book value of Truck #3 [¥30,000 – (¥30,000/5 X 1 1/2 yrs.)] = ¥30,000 – ¥9,000 =
 Loss on Trade

²Truck #1: \$18,000/5 = ¥ 3,600
 Truck #2: \$22,000/5 = 4,400
 Truck #3: \$30,000/5 X 1/2 = 3,000
 Truck #4: \$24,000/5 = 4,800
 Truck #5: \$40,000/5 X 1/2 = 4,000
 Total ¥19,800

PROBLEM 11-4 (Continued)

| | |
|-----------------------------------------------------------------------------------------|-------------------------------|
| ³ Book value of Truck #1 [$¥18,000 - (¥18,000/5 \times 4 \text{ yrs.})$] = | |
| $¥18,000 - ¥14,400$ | = $¥3,600$ |
| Cash received on sale | = <u>$(3,500)$</u> |
| Loss on sale | <u>¥ 100</u> |

| | | | |
|------------------------|-------------|---|-----------------------------|
| ⁴ Truck #2: | $¥22,000/5$ | = | $¥4,400$ |
| Truck #4: | $¥24,000/5$ | = | $4,800$ |
| Truck #5: | $¥40,000/5$ | = | <u>$8,000$</u> |
| Total | | | <u>$¥17,200$</u> |

| | |
|-------------------------------------------------------------------------------------------|-----------------------------|
| ⁵ Book value of Truck #4 $¥24,000 - [(¥24,000/5 \times 3 \text{ yrs.})]$ | = $¥9,600$ |
| Cash received ($¥700 + ¥2,500$) | = <u>$3,200$</u> |
| Loss on disposal | <u>$¥6,400$</u> |

| | | | |
|------------------------|------------------------|---|-----------------------------|
| ⁶ Truck #2: | $¥22,000/5 \times 1/2$ | = | $¥ 2,200$ |
| Truck #4: | $¥24,000/5 \times 1/2$ | = | $2,400$ |
| Truck #5: | $¥40,000/5$ | | $8,000$ |
| Truck #6: | $¥42,000/5 \times 1/2$ | = | <u>$4,200$</u> |
| Total | | | <u>$¥16,800$</u> |

| | | | |
|------------------------|--------------|---|-----------------------------|
| ⁷ Truck #2: | (fully dep.) | = | $¥ 0$ |
| Truck #5: | $¥40,000/5$ | = | $8,000$ |
| Truck #6: | $¥42,000/5$ | = | <u>$8,400$</u> |
| Total | | | <u>$¥16,400$</u> |

(b) Compound journal entry December 31, 2011:

| | | |
|--------------------------------------------|--------|--------|
| Accumulated Depreciation, Semitrucks | 66,550 | |
| Semitrucks | | 48,000 |
| Retained Earnings | | 4,550 |
| Depreciation Expense 2011 | | 14,000 |

PROBLEM 11-4 (Continued)**Summary of Adjustments:**

| | Per Books | As Adjusted | Adjustment Dr. or (Cr.) |
|-----------------------------------|------------------------|------------------------|------------------------------------|
| Semitrucks | <u>¥152,000</u> | <u>¥104,000</u> | <u>¥(48,000)</u> |
| Accumulated Depreciation | <u>¥129,150</u> | <u>¥ 62,600</u> | <u>¥ 66,550</u> |
| Prior Years' Income | | | |
| Retained Earnings, 2008 | ¥ 21,000 | ¥ 22,800 | ¥ 1,800 |
| Retained Earnings, 2009 | 22,500 | 17,300 | (5,200) |
| Retained Earnings, 2010 | <u>24,350</u> | <u>23,200</u> | <u>(1,150)</u> |
| Totals | <u>¥ 67,850</u> | <u>¥ 63,300</u> | <u>¥ (4,550)</u> |
| Depreciation Expense, 2011 | <u>¥ 30,400</u> | <u>¥ 16,400</u> | <u>¥(14,000)</u> |

PROBLEM 11-5

- (a) The amounts to be recorded on the books of Darby Sporting Goods Inc. as of December 31, 2010, for each of the properties acquired from Quay Athletic Equipment Company are calculated as follows:

Cost Allocations to Acquired Properties

| | Appraisal Value | Remaining Purchase Price Allocations | Renovations | Capitalized Interest | Total |
|---------------|--------------------|-----------------------------------------------|-----------------|-------------------------|-----------------|
| (1) Land | £290,000 | | | | £290,000 |
| (2) Building | | £ 77,000 ¹ | £100,000 | £21,000 ² | 198,000 |
| (3) Machinery | | <u>33,000¹</u> | | | <u>33,000</u> |
| Totals | <u>£290,000</u> | <u>£110,000</u> | <u>£100,000</u> | <u>£21,000</u> | <u>£521,000</u> |

Supporting Calculations

¹Balance of purchase price to be allocated.

| | |
|-------------------------------|-----------------|
| Total purchase price..... | £400,000 |
| Less: Land appraisal..... | <u>290,000</u> |
| Balance to be allocated | <u>£110,000</u> |

| | Appraisal Values | Ratios | | Allocated Values |
|-----------|---------------------|---------------|------------|---------------------|
| Building | £105,000 | 105/150 = .70 | X £110,000 | £ 77,000 |
| Machinery | <u>45,000</u> | 45/150 = .30 | X £110,000 | <u>33,000</u> |
| Totals | <u>£150,000</u> | <u>1.00</u> | | <u>£110,000</u> |

PROBLEM 11-5 (Continued)

²Capitalizable interest.

| Expenditures | | Capitalization | Weighted-Average |
|--------------|-----------------|----------------|--------------------------|
| Date | Amount | Period | Accumulated Expenditures |
| 1/1 | £ 50,000 | 12/12 | £ 50,000 |
| 4/1 | 120,000 | 9/12 | 90,000 |
| 10/1 | 140,000 | 3/12 | 35,000 |
| 12/31 | 190,000 | 0/12 | —0— |
| | <u>£500,000</u> | | <u>£175,000</u> |

| Weighted-Average Accumulated Expenditures | | Interest Rate | | Avoidable Interest |
|----------------------------------------------|---|------------------|---|-----------------------|
| £175,000 | X | 12% | = | £21,000 |

Note to instructor: If the interest is allocated between the building and the machinery, £14,700 (£21,000 X 105/150) would be allocated to the building and £6,300 (£21,000 X 45/150) would be allocated to the machinery.

(b) Darby Sporting Goods Inc.'s 2011 depreciation expense, for book purposes, for each of the properties acquired from Quay Athletic Equipment Company is as follows:

1. Land: No depreciation.

2. Building: Depreciation rate = $1.50 \times 1/15 = .10$
 2011 depreciation expense = Cost X Rate X 1/2 year
 = £198,000 X .10 X 1/2
 = £9,900

3. Machinery: Depreciation rate = $2.00 \times 1/5 = .40$
 2011 depreciation expense = Cost X Rate X 1/2
 = £33,000 X .40 X 1/2
 = £6,600

PROBLEM 11-5 (Continued)

- (c) Arguments for the capitalization of interest costs include the following.
1. Diversity of practices among companies and industries called for standardization in practices.
 2. Total interest costs should be allocated to enterprise assets and operations, just as material, labor, and overhead costs are allocated. That is, under the concept of historical costs, all costs incurred to bring an asset to the condition and location necessary for its intended use should be reflected as a cost of that asset.

Arguments against the capitalization of interest include the following:

1. Interest capitalized in a period would tend to be offset by amortization of interest capitalized in prior periods.
2. Interest cost is a cost of financing, not of construction.

- (d) If Darby decides to use revaluation accounting for this building, then revaluation applies to all assets in that class of assets. Darby cannot selectively apply revaluation accounting to certain buildings but keep others at historical cost.

Darby should use revaluation accounting if they want to increase their equity base to help them meet covenant requirements or provide additional assurances to investors and creditors that the company is solvent.

Darby should not use revaluation accounting because of the continuing costs associated with appraisals to determine fair value. In addition, losses associated with revaluations decrease net income but gains associated with revaluations are not reported in net income but instead go directly to equity.

| |
|---------------------|
| PROBLEM 11-6 |
|---------------------|

- | | | |
|------|-------------|-------------------------------------------------------------------------------------------------------------|
| (1) | \$80,000 | Allocated in proportion to appraised values ($1/10 \times \$800,000$). |
| (2) | \$720,000 | Allocated in proportion to appraised values ($9/10 \times \$800,000$). |
| (3) | Fifty years | Cost less salvage ($\$720,000 - \$40,000$) divided by annual depreciation ($\$13,600$). |
| (4) | \$13,600 | Same as prior year since it is straight-line depreciation. |
| (5) | \$91,000 | [Number of shares (2,500) times fair value (\$30)] plus demolition cost of existing building (\$16,000). |
| (6) | None | No depreciation before use. |
| (7) | \$40,000 | Fair value. |
| (8) | \$6,000 | Cost (\$40,000) times percentage ($1/10 \times 150\%$). |
| (9) | \$5,100 | Cost (\$40,000) less prior year's depreciation (\$6,000) equals \$34,000. Multiply \$34,000 times 15%. |
| (10) | \$168,000 | Total cost (\$182,900) less repairs and maintenance (\$14,900). |
| (11) | \$36,000 | Cost less salvage ($\$168,000 - \$6,000$) times $8/36$. |
| (12) | \$10,500 | Cost less salvage ($\$168,000 - \$6,000$) times $7/36$ times one-third of a year. |

PROBLEM 11-6 (Continued)

- (13) \$52,000** Annual payment (\$6,000) times present value of annuity due at 8% for 11 years (7.710) plus down payment (\$5,740). This can be found in an annuity due table since the payments are at the beginning of each year. Alternatively, to convert from an ordinary annuity to an annuity due factor, proceed as follows: For eleven payments use the present value of an ordinary annuity for 11 years (7.139) times 1.08. Multiply this factor (7.710) times \$6,000 annual payment to obtain \$46,260, and then add the \$5,740 down payment.
- (14) \$2,600** Cost (\$52,000) divided by estimated life (20 years).

PROBLEM 11-7

(a) 1. **Straight-line Method:** $\frac{\$90,000 - \$6,000}{5 \text{ years}} = \$16,800 \text{ a year}$

2. **Activity Method:** $\frac{\$90,000 - \$6,000}{100,000 \text{ hours}} = \$.84 \text{ per hour}$

| | | | |
|-------------|-------------|------------------------------|-----------------|
| Year | 2008 | 20,000 hrs. X \$.84 = | \$16,800 |
| | 2009 | 25,000 hrs. X \$.84 = | 21,000 |
| | 2010 | 15,000 hrs. X \$.84 = | 12,600 |
| | 2011 | 30,000 hrs. X \$.84 = | 25,200 |
| | 2012 | 10,000 hrs. X \$.84 = | 8,400 |

3. **Sum-of-the-Years'-Digits: 5 + 4 + 3 + 2 + 1 = 15**

| | | | |
|-------------|-------------|--------------------------------------|-----------------|
| Year | 2008 | 5/15 X (\$90,000 – \$6,000) = | \$28,000 |
| | 2009 | 4/15 X \$84,000 = | 22,400 |
| | 2010 | 3/15 X \$84,000 = | 16,800 |
| | 2011 | 2/15 X \$84,000 = | 11,200 |
| | 2012 | 1/15 X \$84,000 = | 5,600 |

4. **Double-Declining-Balance Method: Each year is 20% of its total life. Double the rate to 40%.**

| | | | |
|-------------|-------------|--------------------------------------|-----------------|
| Year | 2008 | 40% X \$90,000 = | \$36,000 |
| | 2009 | 40% X (\$90,000 – \$36,000) = | 21,600 |
| | 2010 | 40% X (\$90,000 – \$57,600) = | 12,960 |
| | 2011 | 40% X (\$90,000 – \$70,560) = | 7,776 |
| | 2012 | Enough to reduce to salvage = | 5,664 |

PROBLEM 11-7 (Continued)

(b) 1. Straight-line Method:

| | | | | |
|------|------|----------------------------------------------|----------|----------|
| Year | 2008 | $\frac{\$90,000 - \$6,000}{5 \text{ years}}$ | X 9/12 = | \$12,600 |
| | 2009 | Full year | | 16,800 |
| | 2010 | Full year | | 16,800 |
| | 2011 | Full year | | 16,800 |
| | 2012 | Full year | | 16,800 |
| | 2013 | Full year X 3/12 year = | | 4,200 |

2. Sum-of-the-Years'-Digits:

| | | | |
|------|----------------------------------------|---------------|----------|
| 2008 | $(5/15 \times \$84,000) \times 9/12 =$ | | \$21,000 |
| 2009 | $(5/15 \times \$84,000) \times 3/12 =$ | \$ 7,000 | |
| | $(4/15 \times \$84,000) \times 9/12 =$ | <u>16,800</u> | 23,800 |
| 2010 | $(4/15 \times \$84,000) \times 3/12 =$ | 5,600 | |
| | $(3/15 \times \$84,000) \times 9/12 =$ | <u>12,600</u> | 18,200 |
| 2011 | $(3/15 \times \$84,000) \times 3/12 =$ | 4,200 | |
| | $(2/15 \times \$84,000) \times 9/12 =$ | <u>8,400</u> | 12,600 |
| 2012 | $(2/15 \times \$84,000) \times 3/12 =$ | 2,800 | |
| | $(1/15 \times \$84,000) \times 9/12 =$ | <u>4,200</u> | 7,000 |
| 2013 | $(1/15 \times \$84,000) \times 3/12 =$ | | 1,400 |

PROBLEM 11-7 (Continued)**3. Double-Declining Balance Method:**

| Year | Cost | Accum. Depr. at beg. of Year | Book Value at beg. of Year | Depr. Expense |
|-------------|-------------|-------------------------------------------------|-----------------------------------------------|--------------------------|
| 2008 | \$90,000 | — | \$90,000 | \$27,000 (1) |
| 2009 | 90,000 | \$27,000 | 63,000 | 25,200 (2) |
| 2010 | 90,000 | 52,200 | 37,800 | 15,120 (3) |
| 2011 | 90,000 | 67,320 | 22,680 | 9,072 (4) |
| 2012 | 90,000 | 76,392 | 13,608 | 5,443 (5) |
| 2013 | 90,000 | 81,835 | 8,165 | 2,165 (6) |

(1) $\$90,000 \times 40\% \times 9/12$

(2) $(\$90,000 - \$27,000) \times 40\%$

(3) $(\$90,000 - \$52,200) \times 40\%$

(4) $(\$90,000 - \$67,320) \times 40\%$

(5) $(\$90,000 - \$76,392) \times 40\%$

(6) to reduce to \$6,000 salvage value.

PROBLEM 11-8

The straight-line method would provide the highest total net income for financial reporting over the three years, as it reports the lowest total depreciation expense. These computations are provided below.

Computations of depreciation expense and accumulated depreciation under various assumptions:

(1) Straight-line:

$$\frac{\$1,260,000 - \$60,000}{5 \text{ years}} = \$240,000$$

| <u>Year</u> | <u>Depreciation Expense</u> | <u>Accumulated Depreciation</u> |
|-------------|-----------------------------|---------------------------------|
| 2009 | \$240,000 | <u>\$ 240,000</u> |
| 2010 | 240,000 | <u>\$ 480,000</u> |
| 2011 | <u>240,000</u> | <u>\$ 720,000</u> |
| | <u>\$720,000</u> | |

(2) Double-declining-balance:

| <u>Year</u> | <u>Depreciation Expense</u> | | <u>Accumulated Depreciation</u> |
|-------------|-----------------------------|---------------------|---------------------------------|
| 2009 | \$504,000 | (40% X \$1,260,000) | <u>\$ 504,000</u> |
| 2010 | 302,400 | (40% X \$756,000) | <u>\$ 806,400</u> |
| 2011 | <u>181,440</u> | (40% X \$453,600) | <u>\$ 987,840</u> |
| | <u>\$987,840</u> | | |

(3) Sum-of-the-years'-digits:

| <u>Year</u> | <u>Depreciation Expense</u> | | <u>Accumulated Depreciation</u> |
|-------------|-----------------------------|----------------------|---------------------------------|
| 2009 | \$400,000 | (5/15 X \$1,200,000) | <u>\$ 400,000</u> |
| 2010 | 320,000 | (4/15 X \$1,200,000) | <u>\$ 720,000</u> |
| 2011 | <u>240,000</u> | (3/15 X \$1,200,000) | <u>\$ 960,000</u> |
| | <u>\$960,000</u> | | |

PROBLEM 11-8 (Continued)

(4) Units-of-output:

| <u>Year</u> | <u>Depreciation Expense</u> | | <u>Accumulated Depreciation</u> |
|-------------|---------------------------------|------------------|-------------------------------------|
| 2009 | \$288,000 | (\$24* X 12,000) | <u>\$288,000</u> |
| 2010 | 264,000 | (\$24 X 11,000) | <u>\$552,000</u> |
| 2011 | <u>240,000</u> | (\$24 X 10,000) | <u>\$792,000</u> |
| | <u>\$792,000</u> | | |

*\$1,200,000 ÷ 50,000 (total units) = \$24 per unit

| |
|---------------------|
| PROBLEM 11-9 |
|---------------------|

(a) Carrying value of asset: $\$10,000,000 - \$2,500,000^* = \$7,500,000$.

$$*(\$10,000,000 \div 8) \times 2$$

Recoverable amount (\$5,600,000) < Carrying value (\$7,500,000)

Impairment entry:

| | | |
|----------------------------|------------|-----------|
| Loss on Impairment | 1,900,000* | |
| Accumulated Depreciation— | | |
| Equipment | | 1,900,000 |
| *\$7,500,000 – \$5,600,000 | | |

| | | |
|--------------------------------|-------------|-----------|
| (b) Depreciation Expense | 1,400,000** | |
| Accumulated Depreciation— | | |
| Equipment | | 1,400,000 |
| **(\$5,600,000 ÷ 4) | | |

| | | |
|-------------------------------------------|---------|---------|
| Accumulated Depreciation—Equipment | 700,000 | |
| Recovery of Impairment Loss | | 700,000 |
| \$4,900,000 – (\$5,600,000 – \$1,400,000) | | |

(c) No depreciation is recorded on impaired assets to be disposed of.
Recovery of impairment losses are recorded.

| | | | |
|----------|---------------------------|-----------|-----------|
| 12/31/10 | Loss on Impairment | 1,900,000 | |
| | Accumulated Depreciation— | | |
| | Equipment | | 1,900,000 |

| | | | |
|----------|---------------------------------------------|---------|---------|
| 12/31/11 | Loss on Impairment | 700,000 | |
| | Accumulated Depreciation— | | |
| | Equipment (\$5,600,000 – \$4,900,000) | | 700,000 |

PROBLEM 11-10

Part I

(a) Calculation of the machine's value-in-use at the end of 2010

| <u>Year</u> | <u>Future Cash Flows</u> | <u>Present Value Factor</u> | <u>Discounted Cash Flow</u> |
|--------------|--------------------------|-----------------------------|-----------------------------|
| 2011 | \$22,165 | 0.86957 | \$ 19,274 |
| 2012 | 21,450 | 0.75614 | 16,219 |
| 2013 | 20,550 | 0.65752 | 13,512 |
| 2014 | 24,725 | 0.57175 | 14,137 |
| 2015 | 25,325 | 0.49718 | 12,591 |
| 2016 | 24,825 | 0.43233 | 10,733 |
| 2017 | 24,123 | 0.37594 | 9,069 |
| 2018 | 25,533 | 0.32690 | 8,347 |
| 2019 | 24,234 | 0.28426 | 6,889 |
| 2020 | 22,850 | 0.24719 | <u>5,648</u> |
| Value in use | | | \$116,419 |

The calculation of the impairment loss at the end of 2010 is as follows.

| <u>Machine</u> | |
|----------------------------------------------|-------------------------|
| Carrying amount before impairment loss | \$150,000 |
| Recoverable amount (value-in-use) | <u>(116,419)</u> |
| Impairment loss | <u>\$ 33,581</u> |

(b) December 31, 2010

| | | |
|----------------------------------------|---------------|---------------|
| Loss on Impairment | 33,581 | |
| Accumulated Depreciation—Machine | | 33,581 |

PROBLEM 11-10 (Continued)

Part II

(c) Revised Cash Flows

| Year | Future Cash Flows | Present Value Factor 14% | Discounted Cash Flow |
|--------------|-------------------|--------------------------|----------------------|
| 2015 | \$30,321 | .66,451 | \$ 26,364 |
| 2016 | 32,750 | .75,614 | 24,764 |
| 2017 | 31,721 | .65,752 | 20,857 |
| 2018 | 31,950 | .57,175 | 18,267 |
| 2019 | 33,100 | .49,718 | 16,457 |
| 2020 | 27,999 | .43,233 | 12,105 |
| Value-in-use | | | <u>\$118,814</u> |

Calculation of the reversal of the impairment loss at the end of 2014

| | |
|----------------------------------------------------------------|------------------|
| Carrying amount at the end of 2010 (Part I)..... | \$116,419 |
| Depreciation charge: 2011 to 2014 [(\$116,419/10) X 4]..... | (46,568) |
| Costs to enhance the asset's performance..... | <u>25,000</u> |
| Carrying amount before reversal | <u>\$ 94,851</u> |
| A—Recoverable amount (Value-in-use)..... | \$118,814 |
| B—Carrying amount based on depreciated historical cost..... | \$115,000* |

| | |
|--------------------------------------------------------------------------|------------------|
| *Original cost..... | \$150,000 |
| Accumulated depreciation based on historical cost (\$15,000 X 4) | (60,000) |
| Costs to enhance..... | <u>25,000</u> |
| | <u>\$115,000</u> |

Carrying amount after reversal—lower of A, B: \$115,000

Reversal of the impairment loss \$20,149 (\$115,000 – \$94,851) is recorded as follows.

| | | |
|----------------------------------------|--------|--------|
| Accumulated Depreciation—Machine | 20,149 | |
| Recovery of Impairment Loss | | 20,149 |

| |
|----------------------|
| PROBLEM 11-11 |
|----------------------|

(a) Cost per barrel: $(£1,200,000 + £50,000) \div 500,000 = £2.5/\text{barrel}$

| | | | |
|-----|-----------------------------------------|---------------|-------------------|
| (b) | Sales (36,000 X £65)..... | | £2,340,000 |
| | Expenses: | | |
| | Depletion (36,000 X £2.5)..... | £90,000 | |
| | Premium Payment (£2,340,000 X .04)..... | 93,600 | |
| | Annual rental..... | <u>62,000</u> | <u>245,600</u> |
| | Current year profit..... | | <u>£2,094,400</u> |

(c) Phelps has a choice on how to account for its exploration and evaluation costs. It can either write off these costs as incurred or capitalize them pending evaluation.

PROBLEM 11-12

(a) Estimated depletion:

| Depletion Base | Estimated Yield | Estimated Depletion | | |
|-------------------|--------------------|---------------------|--------------------------------------------|----------------------------|
| | | Per Ton | 1 ST & 11 th Yrs. | Each of Yrs. 2-10 Incl. |
| \$870,000* | 120,000 tons | \$7.25 | \$43,500** | \$87,000*** |

*(\$900,000 – \$30,000)

**(\$7.25 X 6,000)

***(\$7.25 X 12,000)

Estimated depreciation:

| Asset | Cost | Per ton Mined | 1 st Yr. | Yrs. 2–5 | 6 th Yr. | Yrs. 7–10 | 11 th Yr. |
|-----------------|----------|------------------|------------------------|-------------|------------------------|--------------|-------------------------|
| Building | \$36,000 | \$.30* | \$1,800 | \$3,600 | \$3,600 | \$3,600 | \$1,800 |
| Machinery (1/2) | 30,000 | .25** | 1,500 | 3,000 | 3,000 | 3,000 | 1,500 |
| Machinery (1/2) | 30,000 | .50*** | 3,000 | 6,000 | 3,000 | 0 | 0 |

*\$36,000 ÷ 120,000 = \$.30

**\$30,000 ÷ 120,000 = \$.25

***(\$30,000 ÷ 120,000) X 2 = \$.50

(b) Depletion: \$7.25 X 5,000 tons = \$36,250

| | | | |
|---------------|--------------------|-------------------|----------------|
| Depreciation: | Building | \$\$.30 X 5,000 = | \$1,500 |
| | Machinery | \$.25 X 5,000 = | 1,250 |
| | Machinery | \$.50 X 5,000 = | <u>2,500</u> |
| | Total depreciation | | <u>\$5,250</u> |

***PROBLEM 11-13**

| | | | |
|------------|-----------------------------------------------------|-----------------------------|-----------------------------|
| (a) | | | |
| | <u>December 31, 2009</u> | | |
| | Land (\$215,000 – \$200,000)..... | 15,000 | |
| | Unrealized Gain on Revaluation—Land | | 15,000 |
| | | | |
| (b) | | | |
| | | <u>Dec. 31, 2010</u> | <u>Dec. 31, 2011</u> |
| | Land | \$185,000 | \$205,000 |
| | Other Comprehensive Income | (15,000) | 5,000 |
| | Impairment Loss | (15,000) | 15,000 |
| | Accumulated Other Comprehensive Income | — | 5,000 |
| | | | |
| (c) | | | |
| | <u>December 31, 2010</u> | | |
| | Unrealized Gain on Revaluation—Land | 15,000 | |
| | Loss on Impairment | 15,000 | |
| | Land (\$215,000 – \$185,000) | | 30,000 |
| | | | |
| | <u>December 31, 2011</u> | | |
| | Land (\$205,000 – \$185,000)..... | 20,000 | |
| | Recovery of Impairment Loss | | 15,000 |
| | Unrealized Gain on Revaluation—Land | | 5,000 |
| | | | |
| (d) | | | |
| | <u>January 15, 2012</u> | | |
| | Cash | 220,000 | |
| | Land | | 205,000 |
| | Gain on Disposal of Land | | 15,000 |
| | | | |
| | Accumulated Other Comprehensive Income | 5,000 | |
| | Retained Earnings | | 5,000 |

***PROBLEM 11-14**

(a) January 2, 2010

| | | |
|-----------------|---------|---------|
| Equipment | 500,000 | |
| Cash..... | | 500,000 |

December 31, 2010

| | | |
|---------------------------------------------------|--------|--------|
| Depreciation Expense (€500,000 ÷ 10) | 50,000 | |
| Accumulated Depreciation—Equipment | | 50,000 |
| Accumulated Depreciation—Equipment | 50,000 | |
| Equipment (€500,000 – €468,000)..... | | 32,000 |
| Unrealized Gain on Revaluation— Equipment..... | | 18,000 |

| | <u>Dec. 31, 2011</u> | <u>Dec. 31, 2012</u> |
|-------------------------------------------|----------------------|----------------------|
| Equipment | €380,000 | €315,000 |
| Other Comprehensive Income | (16,000) | 2,500 |
| Depreciation Expense | 52,000 | 47,500 |
| Impairment Loss | 20,000 | (20,000) |
| Accumulated Other Comprehensive Income | (0) | 5,000 |

(c) December 31, 2011

| | | |
|------------------------------------------------|--------|--------|
| Depreciation Expense (€468,000 ÷ 9)..... | 52,000 | |
| Accumulated Depreciation—Equipment..... | | 52,000 |
| Accumulated Other Comprehensive Income..... | 2,000 | |
| Retained Earnings (€52,000 – €50,000) | | 2,000 |
| Accumulated Depreciation..... | 52,000 | |
| Unrealized Gain on Revaluation—Equipment | 16,000 | |
| Loss on Impairment (€400,000 – €380,000) | 20,000 | |
| Equipment (€468,000 – €380,000)..... | | 88,000 |

***PROBLEM 11-14 (Continued)**

(c)

December 31, 2012

| | | |
|-------------------------------------------------|--------|--------|
| Depreciation Expense (€380,000 ÷ 8) | 47,500 | |
| Accumulated Depreciation—Equipment | | 47,500 |
| Retained Earnings (€50,000 – €47,500) | 2,500 | |
| Accumulated Other Comprehensive Income | | 2,500 |
| Accumulated Depreciation—Equipment..... | 47,500 | |
| Recovery of Impairment Loss | | 20,000 |
| Unrealized Gain on Revaluation | | 2,500 |
| Equipment (€380,000 – €355,000) | | 25,000 |

(d)

December 31, 2013

| | | |
|----------------------------------------------|---------|---------|
| Cash | 330,000 | |
| Loss on Disposal of Equipment..... | 25,000 | |
| Equipment..... | | 355,000 |
| Accumulated Other Comprehensive Income | 5,000 | |
| Retained Earnings..... | | 5,000 |

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 11-1 (Time 25–35 minutes)

Purpose—to provide the student with an understanding of the basic objective of depreciation accounting. In addition, the case involves a reverse sum-of-the-years'-digits situation and the student is to comment on the propriety of such an approach. Finally, the classic issue of whether depreciation provides funds must be considered. The tax effects of depreciation must be considered when this part of the case is examined. An excellent case for covering the traditional issues involving depreciation accounting.

CA 11-2 (Time 25–35 minutes)

Purpose—to provide the student with an understanding of a number of unstructured situations involving depreciation accounting. The first situation considers whether depreciation should be recorded during a strike. The second situation involves the propriety of employing the units-of-production method in certain situations. The third situation involves the step-up of depreciation charges because properties are to be replaced due to obsolescence. The case is somewhat ambiguous, so cut-and-dried approaches should be discouraged.

CA 11-3 (Time 25–35 minutes)

Purpose—to provide the student with an understanding of the objectives of depreciation and the theoretical basis for accelerated depreciation methods.

CA 11-4 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to examine the ethical dimensions of the depreciation method choice.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 11-1

- (a) The purpose of depreciation is to distribute the cost (or other book value) of tangible plant assets, less residual value, over their useful lives in a systematic and rational manner. Under IFRS, depreciation accounting is a process of allocation, not of valuation, through which the productive effort (cost) is to be matched with productive accomplishment (revenue) for the period. Depreciation accounting, therefore, is concerned with the timing of the expiration of the cost of tangible plant assets.
- (b) The proposed depreciation method is, of course, systematic. Whether it is rational in terms of cost allocation depends on the facts of the case. It produces an increasing depreciation charge, which is usually not justifiable in terms of the benefit from the use of the asset because manufacturers typically prefer to use their new equipment as much as possible and their old equipment only as needed to meet production quotas during periods of peak demand. As a general rule, then, the benefit declines with age. Assuming that the actual operations (including equipment usage) of each year are identical, maintenance and repair costs are likely to be higher in the later years of usage than in the earlier years. Hence the proposed method would couple light depreciation and repair charges in the early years. Reported net income in the early years would be much higher than reported net income in the later years of asset life, an unreasonable and undesirable variation during periods of identical operation.

On the other hand, if the expected level of operations (including equipment usage) in the early years of asset life is expected to be low as compared to that of later years because of slack demand or production policies, the pattern of the depreciation charges of the proposed method approximately parallels expected benefits (and revenues) and hence is reasonable. Although the units-of-production depreciation method is the usual selection to fit this case, the proposed method also conforms to IFRS in this case provided that proper justification is given.

- (c) (1) Depreciation charges neither recover nor create funds. Revenue-producing activities are the sources of funds from operations: if revenues exceed out-of-pocket costs during a fiscal period, funds are available to cover other than out-of-pocket costs; if revenues do not exceed out-of-pocket costs, no funds are made available no matter how much, or little, depreciation is charged.
- (2) Depreciation may affect funds in two ways. First, depreciation charges affect reported income and hence may affect managerial decisions such as those regarding pricing, product selection, and dividends. For example, the proposed method would result initially in higher reported income than would the straight-line method, consequently shareholders might demand higher dividends in the earlier years than they would otherwise expect.

The straight-line method, by causing a lower reported income during the early years of asset life and thereby reducing the amount of possible dividends in early years as compared with the proposed method, could encourage earlier reinvestments in other profit-earning assets in order to meet increasing demand.

CA 11-1 (Continued)

Second, depreciation charges affect reported taxable income and hence affect directly the amount of income taxes payable in the year of deduction.

Using the proposed method for tax purposes would reduce the total tax bill over the life of the assets (1) if the tax rates were increased in future years or (2) if the business were doing poorly now but were to do significantly better in the future. The first condition is political and speculative but the second condition may be applicable to Burnitz Manufacturing Company in view of its recent origin and its rapid expansion program. Consequently, more funds might be available for reinvestment in plant assets in years of large deductions if one of the above assumptions were true.

If Burnitz is not profitable now, it would not benefit from higher deductions now and should consider an increasing charge method for tax purposes, such as the one proposed. If Burnitz is quite profitable now, the president should reconsider his proposal because it will delay the availability of the tax shield provided by depreciation. However, this decision should not affect the decision to use a depreciation method for shareholders' reporting that is systematic and rational in terms of cost allocation under IFRS as presently understood.

CA 11-2

Situation I. This position relates to the omission of a provision for depreciation during a strike. The same question could be raised with respect to plant shut-downs for many reasons, such as for a lack of sales or for seasonal business.

The method of depreciation used should be systematic and rational. The annual provision for depreciation should represent a fair estimate of the loss in value arising from wear and usage and also from obsolescence. Each company should analyze its own facts and establish the best method under the circumstances. If the company was employing a straight-line depreciation method, for example, it is inappropriate to stop depreciating the plant asset during the strike.

If the company employs a units-of-production method, however, it would be appropriate not to depreciate the asset during this period. Even in this latter case, however, if the strike were prolonged, it might be desirable to record some depreciation because of the obsolescence factors related to the passage of time.

Situation II. (a) Steady demand for the new blenders suggests use of the straight-line method or the units-of-production method, either of which will allocate cost evenly over the life of the machine. Decreasing demand indicates use of an accelerated method (declining-balance or sum-of-the-years'-digits) or the units-of-production method in order to allocate more of the cost to the earlier years of the machine's life. Increasing demand indicates the use of the units-of-production method to charge more of the cost to the later years of the machine's life.

CA 11-2 (Continued)

- (b) In determining the depreciation method to be used for the machine, the objective should be to allocate the cost of the machine over its useful life in a systematic and rational manner, so that costs will be matched with the benefits expected to be obtained. In addition to demand, consideration should be given to the items discussed below, their interrelationships, the relative importance of each, and the degree of certainty with which each can be predicted:

The expected pattern of costs of repairs and maintenance should be considered. Costs which vary with use of the machine may suggest the use of the units-of-production method. Costs which are expected to be equal from period to period suggest the use of the straight-line method. If costs are expected to increase with the age of the machine, an accelerated method may be considered reasonable because it will tend to equalize total expenses from period to period.

The operating efficiency of the machine may change with its age. A decrease in operating efficiency may cause increases in such costs as labor and power; if so, an accelerated method is indicated. If operating efficiency is not expected to decline, the straight-line method is indicated.

Another consideration is the expiration of the physical life of the machine. If the machine wears out in relation to the passage of time, the straight-line method is indicated. Within this maximum life, if the usage per period varies, the units-of-production method may be appropriate.

The machine may become obsolete because of technological innovation; it may someday be more efficient to replace the machine even though it is far from worn out. If the probability is high that such obsolescence will occur in the near future, the shortened economic life should be recognized. Within this shortened life, the depreciation method used would be determined by evaluating such consideration as the anticipated periodic usage.

An example of the interrelationship of the items discussed above is the effect of the repairs and maintenance policy on operating efficiency and physical life of the machine. For instance, if only minimal repairs and maintenance are undertaken, efficiency may decrease rapidly and life may be short.

It is possible that different considerations may indicate different depreciation methods for the machine. If so, a choice must be made based on the relative importance of the considerations. For instance, physical life may be less important than the strong chance of technological obsolescence which would result in a shorter economic life.

Situation III. Depreciation rates should be adjusted in order that the operating sawmills which are to be replaced will be depreciated to their residual value by the time the new facility becomes available. The step-up in the depreciation rates should be considered as a change in estimate and prior years' financial statements should not be adjusted.

The idle mill should be written off immediately as it appears to have no future service potential.

CA 11-3

To: Phil Perriman, Supervisor of Canning Room

From: Your name, Accountant

Date: January 22, 2010

Subject: Annual depreciation charge to the canning department

This memo addresses the questions you asked about the depreciation charge against your department. Admittedly this charge of \$625,000 is very high; however, it is not intended to reflect the wear and tear which the machinery has undergone over the last year. Rather, it is a portion of the machines' cost which has been allocated to this period.

Depreciation is frequently thought to reflect an asset's loss in value over time. For financial statement purposes, however, depreciation allocates part of an asset's cost in a systematic way to each period during its useful life. Although there will always be a decline in an asset's value over time, the depreciation charge is not supposed to measure that decline; instead, it is a periodic "charge" for using purchased equipment during any given period. When you consider the effect which the alternative would have on your departmental costs—expensing the total cost for all six machines this year—is more equitable.

You also mentioned that using straight-line depreciation would result in a smaller charge than would the current double-declining-balance method. This is true during the first years of the equipment's life. Straight-line depreciation expenses even amounts of depreciation for each canning machine's twelve-year life. Thus the straight-line charge for this and all subsequent years would be \$47,500 per machine for total annual depreciation of \$285,000.

During the earlier years of an asset's life, the double-declining-balance method results in higher depreciation charges because it doubles the charge which would have been made under the straight-line method. However, the same percentage depreciation in the first year is applied annually to the asset's declining book value. Therefore, the double-declining-balance charge becomes lower than the straight-line charge during the last several years of the asset's life. For this year, as mentioned above, the charge is \$625,000, but in subsequent years this expense will become lower. By the end of the twelfth year, the same amount of depreciation will have been taken regardless of the method used.

The straight-line method would result in fewer charges against your department this year. However, consider this: when the asset is new, additional costs for service and repairs are minimal. Thus a greater part of the asset's cost should be allocated to this optimal portion of the asset's life. After a few years, your department will have to absorb the additional burden of repair and maintenance costs. During that time, wouldn't you rather have a lower depreciation charge?

I hope that this explanation helps clarify any questions which you may have had about depreciation charges to your department.

CA 11-4

- (a) The stakeholders are Beeler's employees, including Prior, current and potential investors and creditors, and upper-level management.
- (b) The ethical issues are honesty and integrity in financial reporting, job security, and the external users' right to know the financial picture.
- (c) Prior should review the estimated useful lives and residual values of the depreciable assets. Since they are estimates, it is possible that some *should be* changed. Any changes should be based on sound, objective information without concern for the effect on the financial statements (or anyone's job).

(Note: This case can be used with Chapter 22, Accounting Changes and Error Analysis.)

FINANCIAL REPORTING PROBLEM

- (a) M&S classifies its property, plant and equipment under three descriptions in its balance sheet: Property, Plant, and Equipment.**
- (b) M&S's depreciation is provided to write off the cost of tangible non-current assets by equal annual installments (straight-line method).**
- (c) M&S depreciates freehold and leasehold buildings with a remaining lease term over 50 years; leasehold buildings with a remaining lease term of less than 50 years; and fixtures, fittings and equipment over 3 to 25 years.**
- (d) M&S's Notes report depreciation expense of £296.3 million in 2008 and £268.8 million in 2007, and amortization expense of £21.3 million in 2008 and £14.2 in 2007.**
- (e) The statement of cash flows reports the following capital expenditures: 2008, £924.6 million and 2007, £712.8 million.**

COMPARATIVE ANALYSIS CASE

- (a) Property, plant, and equipment, net of accumulated depreciation:

| | |
|---------------------|-------------------|
| Cadbury at 12/31/08 | £1,761 million |
| Nestlé at 12/31/08 | CHF21,097 million |

Percent of total assets:

| | |
|----------------------------------------|-------|
| Cadbury ($£1,761 \div £8,895$) | 19.8% |
| Nestlé ($CHF21,097 \div CHF106,215$) | 19.9% |

- (b) Cadbury and Nestlé depreciate property, plant, and equipment principally by the straight-line method over the estimated useful lives of the assets. Depreciation expense was reported by Cadbury and Nestlé as follows:

| | <u>Cadbury</u> | <u>Nestlé</u> |
|------|----------------|------------------|
| 2008 | £194 million | CHF2,625 million |
| 2007 | 213 million | 2,620 million |

- (c) (1) Asset turnover:

| <u>Cadbury</u> | | <u>Nestlé</u> | |
|-------------------------|-------|--------------------------------|-------|
| <u>£5,384</u> | | <u>CHF109,908</u> | |
| <u>£11,338 + £8,895</u> | = .53 | <u>CHF115,361 + CHF106,215</u> | = .99 |
| 2 | | 2 | |

COMPARATIVE ANALYSIS CASE (Continued)

(2) Profit margin:

| Cadbury | Nestlé |
|-------------------------------|-----------------------------------------|
| $\frac{£487}{£5,384} = 9.0\%$ | $\frac{CHF19,051}{CHF109,908} = 17.3\%$ |

(3) Rate of return on assets:

| Cadbury | Nestlé |
|---------------------------------------------------|----------------------------------------------------------------|
| $\frac{£487}{\frac{£11,338 + £8,895}{2}} = 4.8\%$ | $\frac{CHF19,051}{\frac{CHF115,361 + CHF106,215}{2}} = 17.2\%$ |

Each of Nestlé's ratios is superior to Cadbury's, especially the rate of return on assets. Nestlé's profit margin is almost twice as high as Cadbury's.

- (d) Cadbury's capital expenditures were £500 million in 2008 while Nestlé's capital expenditures were CHF4,869 million in 2008.

Neither Cadbury nor Nestlé capitalized any interest in 2008 because IFRS did not require capitalizing interest until January 1, 2009.

FINANCIAL STATEMENT ANALYSIS CASE

- (a) Carrefour used the straight-line method for depreciating its tangible fixed assets.**
- (b) Depreciation and amortization charges do not increase cash flow from operations. In a cash flow statement, these two items are often added back to net income to arrive at cash flow from operations and therefore some incorrectly conclude these expenses increase cash flow. What affects cash flow from operations are cash revenues and cash expenses. Noncash charges have no effect, except for positive tax savings generated by these charges.**
- (c) The schedule of cash flow measures indicates that cash provided by operations is expected to cover capital expenditures over the next few years, even as expansion continues to accelerate. It is obvious that Carrefour's believes that cash flow measures are meaningful indicators of growth and financial strength, when evaluated in the context of absolute dollars or percentages.**

ACCOUNTING

(amounts in €000,000)

(a) **Book value = €36 – €10 = €26**

$$\begin{aligned}\text{Estimated fair value} &= (\text{€4} \times \text{PVF} - \text{OA}_{4.5\%}) \\ &= (\text{€4} \times 3.54595) \\ &= \text{€14.1838}\end{aligned}$$

$$\text{Impairment charge} = \text{€26} - \text{€14.1838} = \text{€11.8162}$$

$$\text{Post-impairment book value} = \text{€14.1838}$$

(b) **€2.72 X 7.3609 = €20,01944**

$$\text{Impairment} = \text{€26} - \text{€20,01944} = \text{€5.98056}.$$

ANALYSIS

If the stores are in the process of being sold, they would likely be considered 'held for sale' for financial reporting purposes. If they are held for sale, the impairment test is based on the discounted cash flows, instead of undiscounted. Essentially, it is a lower-of-cost-or net realizable value approach.

$$\begin{aligned}\text{Estimated fair value} &= (\text{\$2.72} \times \text{PVF} - \text{OA}_{10.6\%}) \\ &= (\text{\$2.72} \times 7.36009) \\ &= 20.01944\end{aligned}$$

Therefore, Electroboy will need to write the stores down to \$20.01944 from \$26.0. Plant asset write-downs are a little more likely when management intends to sell the assets.

PRINCIPLES

- (a) Under IFRS, there can be a recovery of impairment loss, as long as the recovery amount is limited to the amount of the original impairment.**

- *(b) The major differences between U.S. GAAP and IFRS regarding impairments are as follows. First, IFRS determines the need for an impairment charge by comparing the recoverable amount (the higher of value-in-use and fair value less costs to sell) of the asset to its book value instead of comparing undiscounted estimated future cash flows to book value. This potentially makes impairment charges more likely under IFRS than U.S. GAAP. Second, under IFRS, companies may write a previously impaired asset back up to its original cost. Under U.S. GAAP, the post-impairment book value can not be increased due to an increase in the fair value of the previously impaired asset. Thus, IFRS may provide a more faithful presentation but could be less neutral due to the subjectivity in value-in-use measurements.**

INTERNATIONAL REPORTING CASE

| | Liberty | | Kimco |
|--------------------|-------------------------------|--|----------------------------------|
| (a) (1) ROA | $\frac{£125}{£5,577} = 2.2\%$ | | $\frac{\$297}{\$4,696} = 6.32\%$ |
| | | | |
| | Liberty | | Kimco |
| (2) Profit Margin | $\frac{£125}{£741} = 16.9\%$ | | $\frac{\$297}{\$517} = 57.4\%$ |
| | | | |
| | Liberty | | Kimco |
| (3) Asset Turnover | $\frac{£741}{£5,577} = .13$ | | $\frac{\$517}{\$4,696} = .11$ |

Based on return on assets (ROA), Kimco is performing better than Liberty. The main driver for this difference is strong profit margin, which is over three times that of Liberty. Even though Liberty has a higher asset turnover (.13 vs. .11), this results in only a 2.2% ROA when multiplied by the lower profit margin.

(b) Summary Entry

| | | |
|--------------------------------------|-------|-------|
| Land and Buildings | 1,550 | |
| Unrealized Gain on Revaluation | | 1,550 |

- (c)** Relative to U.S. GAAP, an argument can be made that assets and equity are overstated. Note that in the entry in (b) above, the revaluation adjustment increases Liberty's asset values and equity. To make Liberty's reported numbers comparable to a U.S. company like Kimco, you would need to adjust Liberty's assets and equity numbers downward by the amount of the unrealized gain.

INTERNATIONAL REPORTING CASE (Continued)

For example, after adjusting Liberty's assets downward by the amount of the unrealized gain, Liberty's ROA increases to:

$$\frac{\$125}{(\$5,577 - \$1,952)} = 3.45\%.$$

This is still lower than Kimco's ROA but the gap is narrower after adjusting for differences in revaluation.

Note to instructors: An alternative way to make Liberty and Kimco comparable is to adjust Kimco's assets to fair values. This approach could be used to discuss the trade-off between relevance and faithful representation.

- (a) The authoritative guidance for asset impairments is IAS 36: Impairment of Assets. This Standard shall be applied in accounting for the impairment of all assets, other than:
- a. inventories;
 - b. assets arising from construction contracts;
 - c. deferred tax assets;
 - d. assets arising from employee benefits;
 - e. financial assets that are within the scope of IAS 39 *Financial Instruments: Recognition and Measurement*;
 - f. investment property that is measured at fair value;
 - g. biological assets related to agricultural activity that are measured at fair value less costs to sell;
 - h. deferred acquisition costs, and intangible assets, arising from an insurer's contractual rights under insurance contracts within the scope of IFRS 4 Insurance Contracts; and
 - i. non-current assets (or disposal groups) classified as held for sale in accordance with IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations* (para. 2).

This Standard applies to financial assets classified as:

- a. subsidiaries, as defined in IAS 27 *Consolidated and Separate Financial Statements*;
- b. associates, as defined in IAS 28 Investments in Associates; and
- c. joint ventures, as defined in IAS 31 *Interests in Joint Ventures*.

For impairment of other financial assets, refer to IAS 39 (para. 4).

PROFESSIONAL RESEARCH (Continued)

- (b) In assessing whether there is any indication that an asset may be impaired, an entry shall consider, as a minimum, the following indications. (para. 12):**

External sources of information

- a. during the period, an asset's market value has declined significantly more than would be expected as a result of the passage of time or normal use.**
- b. significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates or in the market to which an asset is dedicated.**
- c. market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially.**
- d. the carrying amount of the net assets of the entity is more than its market capitalisation.**

Internal sources of information

- e. evidence is available of obsolescence or physical damage of an asset.**
- f. significant changes with an adverse effect on the entity have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include the asset becoming idle, plans to discontinue or restructure the operation to which an asset belongs, plans to dispose of an asset before the previously expected date, and reassessing the useful life of an asset as finite rather than indefinite.**
- g. evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected.**

PROFESSIONAL RESEARCH (Continued)

Dividend from a subsidiary, jointly controlled entity or associate

- h. for an investment in a subsidiary, jointly controlled entity or associate, the investor recognizes a dividend from the investment and evidence is available that:**
 - (i) the carrying amount of the investment in the separate financial statements exceeds the carrying amounts in the consolidated financial statements of the investee's net assets, including associated goodwill; or**
 - (ii) the dividend exceeds the total comprehensive income of the subsidiary, jointly controlled entity or associate in the period the dividend is declared.**

The list in paragraph 12 is not exhaustive. An entity may identify other indications that an asset may be impaired and these would also require the entity to determine the asset's recoverable amount or, in the case of goodwill, perform an impairment test in accordance with paragraphs 80–99 (para. 13).

Evidence from internal reporting that indicates that an asset may be impaired includes the existence of:

- a. cash flows for acquiring the asset, or subsequent cash needs for operating or maintaining it, that are significantly higher than those originally budgeted;**
- b. actual net cash flows or operating profit or loss flowing from the asset that are significantly worse than those budgeted;**
- c. a significant decline in budgeted net cash flows or operating profit, or a significant increase in budgeted loss, flowing from the asset; or**
- d. operating losses or net cash outflows for the asset, when current period amounts are aggregated with budgeted amounts for the future. (para. 14)**

Yes, it does appear that Klax should perform an impairment test because market value of assets are most likely lower than current carrying value.

PROFESSIONAL RESEARCH (Continued)

- (c) Different situations may lead to best evidence of fair value (i.e. could be market value, revalued asset, etc.).**
 - a. if the asset's fair value is its market value, the only difference between the asset's fair value and its fair value less costs to sell is the direct incremental costs to dispose of the asset:**
 - (i) if the disposal costs are negligible, the recoverable amount of the revalued asset is necessarily close to, or greater than, its revalued amount (i.e., fair value). In this case, after the revaluation requirements have been applied, it is unlikely that the revalued asset is impaired and recoverable amount need not be estimated.**
 - (ii) if the disposal costs are not negligible, the fair value less costs to sell of the revalued asset is necessarily less than its fair value. Therefore, the revalued asset will be impaired if its value in use is less than its revalued amount (i.e., fair value). In this case, after the revaluation requirements have been applied, an entity applies this Standard to determine whether the asset may be impaired.**
 - b. if the asset's fair value is determined on a basis other than its market value, its revalued amount (i.e., fair value) may be greater or lower than its recoverable amount. Hence, after the revaluation requirements have been applied, an entity applies this Standard to determine whether the asset may be impaired (para. 5).**

Explanation

- (a) The purpose of depreciation is to allocate the cost (or other book value) of tangible plant assets, less residual value, over their useful lives in a systematic and rational manner. Under IFRS, depreciation accounting is a process of allocation, not of valuation, through which the productive effort (cost) is to be matched with productive accomplishment (revenue) for the period. Depreciation accounting, therefore, is concerned with the timing of the expiration of the cost of tangible plant assets.
- (b) The factors relevant in determining the annual depreciation for a depreciable asset are the initial recorded amount (cost), estimated residual value, estimated useful life, and depreciation method.

Assets are typically recorded at their acquisition cost, which is in most cases objectively determinable. Cost assignments in other cases—“basket purchases” and the selection of an implicit interest rate in an asset acquisitions or under deferred-payment plans—may be quite subjective, involving considerable judgment.

The residual value is an estimate of an amount potentially realizable when the asset is retired from service. The estimate is based on judgment and is affected by the length of the useful life of the asset.

The useful life is also based on judgment. It involves selecting the “unit” of measure of service life and estimating the number of such units embodied in the asset. Such units may be measured in terms of time periods or in terms of activity (for example, years or machine hours). When selecting the life, one should select the lower (shorter) of the physical life or the economic life. Physical life involves wear and tear and casualties; economic life involves such things as technological obsolescence and inadequacy.

PROFESSIONAL SIMULATION (Continued)

Measurement

- (a) Compared to the use of an accelerated method, straight-line depreciation would result in the lowest depreciation expense and the highest income. For example, under straight-line depreciation, expense in each year would be:

$$(\$100,000 - \$10,000)/4 = \$22,500$$

Using the double-declining-balance method, depreciation expense in 2010 would be:

$$\$100,000 \times (1/4 \times 2) = \$50,000$$

Depending on the level of use in the first year, use of the units-of-production method could yield an even lower expense in the first year compared to straight-line.

- (b) Over the entire four-year period, all methods will produce the same total depreciation expense. Use of alternative methods only results in differences in timing of the depreciation charges.
- (c) All methods used for financial reporting purposes results in the same cash flow in 2010—that is, a cash outflow of \$100,000 for acquisition of the machine. However, use of an accelerated method for tax purposes results in the higher cash flow in 2010. This is because a larger tax deduction can be taken for depreciation expense, which reduces taxable income, resulting in less cash paid for taxes. Note that over the life of the asset, cash flows for taxes are the same regardless of the tax depreciation method used.

Journal Entry

| | | |
|---------------------------------|---------|---------|
| Cash | 84,000 | |
| Accumulated Depreciation | 45,000* | |
| Gain on Sale of Equipment | | 29,000 |
| Equipment | | 100,000 |

$$*(\$100,000 - \$10,000)/4 = \$22,500 \text{ per year} \times 2 \text{ years (2010, 2011)}$$

CHAPTER 12

Intangible Assets

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|----------------------------------------------------------------------------------|---------------------------------------------------|-----------------|------------------------------|------------|-----------------------|
| 1. Intangible assets; concepts, definitions; items comprising intangible assets. | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 25 | 14 | 1, 2, 3, 5, 6 | 1, 2, 3 | 1, 2, 3 |
| 2. Patents; franchise; organization costs; trade name. | 8, 9, 10, 25 | 1, 2, 3, 4, 13 | 4, 5, 6, 7, 8, 9, 10, 11, 13 | 1, 2, 3, 6 | 2, 3 |
| 3. Goodwill. | 12, 13, 14, 18 | 5, 8, 9 | 12, 13, 15 | 5, 6 | |
| 4. Impairment of intangibles. | 15, 16, 17, 18 | 6, 7, 8, 9 | 7, 14, 15 | 5, 6 | |
| 5. Research and development costs and similar costs. | 9, 19, 20, 21, 22, 23, 24 | 10, 11, 12, 13 | 16, 17 | 1, 2, 3, 4 | 1, 2, 4, 5 |
| 6. Convergence. | 26, 27, 28 | | | | |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | | Brief Exercises | Exercises | Problems |
|---------------------|------------------------------------------------------------------------------|-----------------------|------------------------------|------------|
| 1. | Describe the characteristics of intangible assets. | | 1, 2, 3 | |
| 2. | Identify the costs to include in the initial valuation of intangible assets. | 1, 2, 3, 4 | 5, 7, 9, 10, 11 | 1, 2, 3, 6 |
| 3. | Explain the procedure for amortizing intangible assets. | 1, 2, 3, 4, 13, 14 | 4, 5, 6, 7, 9, 10, 11, 13 | 1, 2, 3, 6 |
| 4. | Describe the types of intangible assets. | | 1, 2, 3 | |
| 5. | Explain the conceptual issues related to goodwill. | | 12, 13 | |
| 6. | Describe the accounting procedures for recording goodwill. | 5 | 12, 13, 15 | 5, 6 |
| 7. | Explain the accounting issues related to intangible asset impairments. | 6, 7, 8, 9 | 7, 14, 15 | 5, 6 |
| 8. | Identify the conceptual issues related to research and development costs. | | 5, 9 | |
| 9. | Describe the accounting for research and development and similar costs. | 10, 11, 12, 13 | 4, 6, 8, 16, 17 | 4 |
| 10. | Indicate the presentation of intangible assets and related items. | 14 | | 4, 6 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|----------------------------------------------------|---------------------|----------------|
| E12-1 | Classification issues—intangibles. | Moderate | 15–20 |
| E12-2 | Classification issues—intangibles. | Simple | 10–15 |
| E12-3 | Classification issues—intangible asset. | Moderate | 10–15 |
| E12-4 | Intangible amortization. | Moderate | 15–20 |
| E12-5 | Correct intangible asset account. | Moderate | 15–20 |
| E12-6 | Recording and amortization of intangibles. | Simple | 15–20 |
| E12-7 | Accounting for trade name. | Simple | 10–15 |
| E12-8 | Accounting for organization costs. | Simple | 10–15 |
| E12-9 | Accounting for patents, franchises, and R&D. | Moderate | 15–20 |
| E12-10 | Accounting for patents. | Moderate | 15–20 |
| E12-11 | Accounting for patents. | Moderate | 20–25 |
| E12-12 | Accounting for goodwill. | Moderate | 20–25 |
| E12-13 | Accounting for goodwill. | Simple | 10–15 |
| E12-14 | Copyright impairment. | Simple | 15–20 |
| E12-15 | Goodwill impairment. | Simple | 15–20 |
| E12-16 | Accounting for R&D costs. | Moderate | 15–20 |
| E12-17 | Accounting for R&D costs. | Moderate | 10–15 |
| P12-1 | Correct intangible asset account. | Moderate | 15–20 |
| P12-2 | Accounting for patents. | Moderate | 20–30 |
| P12-3 | Accounting for franchise, patents, and trade name. | Moderate | 20–30 |
| P12-4 | Accounting for R&D costs. | Moderate | 15–20 |
| P12-5 | Goodwill, impairment. | Complex | 25–30 |
| P12-6 | Comprehensive intangible assets. | Moderate | 30–35 |
| CA12-1 | Development costs. | Moderate | 15–20 |
| CA12-2 | Accounting for pre-opening costs. | Moderate | 20–25 |
| CA12-3 | Accounting for patents. | Moderate | 25–30 |
| CA12-4 | Accounting for research and development costs. | Moderate | 25–30 |
| CA12-5 | Accounting for research and development costs. | Moderate | 20–25 |

ANSWERS TO QUESTIONS

1. The three main characteristics of intangible assets are:
 - (a) they are identifiable.
 - (b) they lack physical substance.
 - (c) they are not monetary assets.
2. If intangibles are acquired for shares, the cost of the intangible is the fair value of the consideration given or the fair value of the consideration received, whichever is more clearly evident.
3. Limited-life intangibles should be amortized by systematic charges to expense over their useful life. An intangible asset with an indefinite life is not amortized.
4. When intangibles are created internally, it is often difficult to determine the validity of any future service potential. To permit deferral of these types of costs would lead to a great deal of subjectivity because management could argue that almost any expense could be capitalized on the basis that it will increase future benefits. The cost of purchased intangibles, however, is capitalized because its cost can be objectively verified and reflects its fair value at the date of acquisition.
5. Companies cannot capitalize self-developed, self-maintained, or self-created goodwill. These expenditures would most likely be reported as selling expenses.
6. Factors to be considered in determining useful life are:
 - (a) The expected use of the asset by the entity.
 - (b) The effects of obsolescence, demand, competition, and other economic factors.
 - (c) Any legal, regulatory or contractual provisions that enable renewal or extension of the asset's legal or contractual life without substantial cost.
 - (d) The level of maintenance expenditure required to obtain the expected future cash flows from the asset.
 - (e) Any legal, regulatory, or contractual provisions that may limit useful life.
 - (f) The expected useful life of another asset or a group of assets to which the useful life of the intangible asset may relate.
7. The amount of amortization expensed for a limited-life intangible asset should reflect the pattern in which the asset is consumed or used up, if that pattern can be reliably determined. If the pattern of production or consumption cannot be determined, the straight-line method of amortization should be used.
8. This trademark is an indefinite life intangible and, therefore, should not be amortized.
9. The \$190,000 should be expensed as research and development expense in 2010. The \$91,000 is expensed as selling and promotion expense in 2010. The \$45,000 of costs to legally obtain the patent should be capitalized and amortized over the useful or legal life of the patent, whichever is shorter.

| | | |
|---------------------------------------------------|--------|--------|
| 10. Patent Amortization Expense | 35,000 | |
| Patents (or Accumulated Patent Amortization)..... | | 35,000 |

Straight-line amortization is used because the pattern of use can not be reliably determined.

11. Artistic-related intangible assets involve ownership rights to plays, pictures, photographs, and video and audiovisual material. These ownership rights are protected by copyrights. Contract related intangible assets represent the value of rights that arise from contractual arrangements. Examples are franchise and licensing agreements, construction permits, broadcast rights, and service or supply contracts.

Questions Chapter 12 (Continued)

12. Varying approaches are used to define goodwill. They are
- (a) Goodwill should be measured initially as the excess of the fair value of the acquisition cost over the fair value of the net assets acquired. This definition is a measurement definition but does not conceptually define goodwill.
 - (b) Goodwill is sometimes defined as one or more unidentified intangible assets and identifiable intangible assets that are not reliably measurable. Examples of elements of goodwill include new channels of distribution, synergies of combining sales forces, and a superior management team.
 - (c) Goodwill may also be defined as the intrinsic value that a business has acquired beyond the mere value of its net assets whether due to the personality of those conducting it, the nature of its location, its reputation, or any other circumstance incidental to the business and tending to make it permanent. Another definition is the capitalized value of the excess of estimated future profits of a business over the rate of return on capital considered normal in the industry.

A bargain purchase develops when the fair value of the assets purchased is higher than the cost. This situation may develop from a market imperfection. In this case, the seller would have been better off to sell the assets individually than in total. However, situations do occur (e.g., a forced liquidation or distressed sale due to the death of the company founder), in which the purchase price is less than the value of the identifiable net assets.

13. Goodwill is recorded only when it is acquired by purchase. Goodwill acquired in a business combination is considered to have an indefinite life and therefore should not be amortized, but should be tested for impairment on at least an annual basis.
14. Many analysts believe that the value of goodwill is so subjective that it should not be given the same status as other types of assets such as cash, receivables, inventory, etc. The analysts are simply stating that they believe that presentation of goodwill on the statement of financial position does not provide any useful information to the users of financial statements. Whether this is true or not is a difficult point to prove, but it should be noted that it appears contradictory to pay for the goodwill and then immediately write it off, denying that it has any value.
15. Accounting standards require that if events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable, then the carrying amount of the asset should be assessed. The impairment loss is measured as the amount by which the carrying amount exceeds the recoverable amount of the asset. The recoverable amount of assets is measured by their fair value less costs to sale if an active market for them exists. If no market price is available, the present value of the expected future net cash flows from the asset may be used.
16. Yes, Zeno should record the recovery of the impairment loss from last year.
17. Impairment losses are reported as part of income from continuing operations, generally in the "Other income and expense" section. Impairment losses (and recovery of losses) are similar to other costs that would flow through operations. Thus, recoveries of losses should be reported as part of income from continuing operations.
18. The amount of goodwill impaired is \$40,000, computed as follows:
- | | |
|--------------------------|------------------|
| Recorded goodwill | \$400,000 |
| Recoverable amount | <u>(360,000)</u> |
| Impaired goodwill | <u>\$ 40,000</u> |

Questions Chapter 12 (Continued)

19. Research and development costs are incurred to develop new products or processes, to improve present products, or to discover new knowledge. Development costs can be capitalized once economic viability criteria are met. Economic viability indicates that the project is far enough along such that the economic benefits of the R&D project will flow to the company.
20. (a) Personnel (labor) type costs incurred in R&D activities should be expensed as incurred.
(b) Materials and equipment costs should be expensed immediately unless the items have alternative future uses. If the items have alternative future uses, the materials should be recorded as inventories and allocated as consumed and the equipment should be capitalized and depreciated as used.
(c) Indirect costs of R&D activities should be reasonably allocated to R&D (except for general and administrative costs, which must be clearly related to be included) and expensed.
21. See Illustration 12-13.
- (a) Expense as R&D.
(b) Expense as R&D (unless economic viability is achieved.)
(c) Capitalize as patent and/or license and amortize.
22. Each of these items should be charged to current operations. Advertising costs have some minor exceptions to this general rule. However, the specific accounting is beyond the scope of this textbook.
23. ¥35,500,000 (¥17,000,000 + ¥6,000,000 + ¥12,500,000).
24. These costs are referred to as start-up costs, or more specifically organizational costs in this case. The accounting for start up costs is straightforward—expense these costs as incurred. The profession recognizes that these costs are incurred with the expectation that future revenues will occur or increased efficiencies will result. However, to determine the amount and timing of future benefits is so difficult that a conservative approach—expensing these costs as incurred—is required.
25. The total life, per revised facts, is 40 years (10 + 30). There are 30 (40 – 10) remaining years for amortization purposes. Original amortization: $\frac{\$540,000}{30} = \$18,000$ per year; \$18,000 X 10 years expired = \$180,000 accumulated amortization.
- | | |
|------------------|----------------------------|
| \$540,000 | original cost |
| <u>–180,000</u> | accumulated amortization |
| <u>\$360,000</u> | remaining cost to amortize |
- \$360,000 ÷ 30 years = \$12,000 amortization for 2010 and years thereafter.
26. **Similarities** include (1) in U.S. GAAP and IFRS, the costs associated with research and development are segregated into the two components; (2) IFRS and U.S. GAAP are similar for intangibles acquired in a business combination. That is, an intangible asset is recognized separately from goodwill if it represents contractual or legal rights or is capable of being separated or divided and sold, transferred, licensed, rented or exchanged; (3) Under both U.S. GAAP and IFRS, limited life intangibles are subject to amortization, but goodwill and indefinite life intangibles are not amortized; rather they are assessed for impairment on an annual basis; (4) IFRS and U.S. GAAP are similar in the accounting for impairments of assets held for disposal.

Questions Chapter 12 (Continued)

Notable **differences** are: (1) while costs in the research phase are always expensed under both IFRS and U.S. GAAP, under IFRS costs in the development phase are capitalized once technological feasibility is achieved; (2) IFRS permits some capitalization of internally generated intangible assets (e.g., brand value), if it is probable there will be a future benefit and the amount can be reliably measured. U.S. GAAP requires expensing of all costs associated with internally generated intangibles; (3) IFRS requires an impairment test at each reporting date for long-lived assets and intangibles and records an impairment if the asset's carrying amount exceeds its recoverable amount; the recoverable amount is the higher of the asset's fair value less costs to sell and its value in use. Value in use is the future cash flows to be derived from the particular asset, discounted to present value. Under U.S. GAAP, impairment loss is measured as the excess of the carrying amount over the asset's fair value (4) IFRS allows reversal of impairment losses when there has been a change in economic conditions or in the expected use of the asset. Under U.S. GAAP, impairment losses cannot be reversed for assets to be held and used; the impairment loss results in a new cost basis for the asset; (5) under IFRS, acquired in-process research and development (IPR&D) is recognized as a separate intangible asset if it meets the definition of an intangible asset and its fair value can be measured reliably. U.S. GAAP requires acquired IPR&D to be written off.

27. As shown in the analysis below, under IFRS, Sophia's ROA is overstated compared to a U.S. GAAP company.

| | IFRS | U.S. GAAP |
|-----------------------|---------|-----------|
| Net Income | € 1,125 | € 920* |
| Average Assets | 12,500 | 12,295** |
| ROA (Income ÷ Assets) | 9% | 7.5% |

* (€1,125 + €120 – €325)

** (€12,500 + €120 – €325)

28. The IASB and FASB have identified a project relating to the accounting for research and development that could possibly converge IFRS and U.S. GAAP on the issue of in-process R&D. One possibility is to amend U.S. GAAP to allow capitalization of in-process R&D similar to the provisions in IFRS. A second project, in a very preliminary stage, would consider expanded recognition of internally generated intangible assets. As indicated, IFRS permits more recognition of intangibles compared to U.S. GAAP. Thus, it will be challenging to develop converged standards for intangible assets, given the long-standing prohibition on capitalizing intangible assets and research and development in U.S. GAAP. Learn more about the timeline for the intangible asset project at the IASB web-site: <http://www.iasb.org/Current+Projects/IASB+Work+Plan.htm>

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 12-1

| | | |
|----------------------------------------------------|--------|--------|
| Patents | 54,000 | |
| Cash | | 54,000 |
| Patent Amortization Expense | 5,400 | |
| Patents ($\$54,000 \times 1/10 = \$5,400$) | | 5,400 |

BRIEF EXERCISE 12-2

| | | |
|----------------------------------------------------------------|--------|--------|
| Patents | 24,000 | |
| Cash | | 24,000 |
| Patent Amortization Expense | 8,400 | |
| Patents [$(\$43,200 + \$24,000) \times 1/8 = \$8,400$] | | 8,400 |

BRIEF EXERCISE 12-3

| | | |
|------------------------------------------------------------------|--------|--------|
| Trade Name | 68,000 | |
| Cash | | 68,000 |
| Trade Name Amortization Expense | 8,500 | |
| Trade Name ($\text{€}68,000 \times 1/8 = \text{€}8,500$) | | 8,500 |

BRIEF EXERCISE 12-4

| | | |
|-------------------------------------------------------------------|---------|---------|
| Franchise | 120,000 | |
| Cash | | 120,000 |
| Franchise Amortization Expense | 11,250 | |
| Franchise ($\$120,000 \times 1/8 \times 9/12 = \$11,250$) | | 11,250 |

BRIEF EXERCISE 12-5

| | | |
|---------------------------------|------------------|------------------|
| Purchase price | | £700,000 |
| Fair value of assets | £800,000 | |
| Fair value of liabilities | <u>(200,000)</u> | |
| Fair value of net assets | | <u>(600,000)</u> |
| Value assigned to goodwill..... | | <u>£100,000</u> |

BRIEF EXERCISE 12-6

| | | |
|---------------------------------------|---------|---------|
| Loss on Impairment | 190,000 | |
| Patents (\$300,000 – \$110,000) | | 190,000 |

BRIEF EXERCISE 12-7

| | | |
|----------------------------------------------------|--------|--------|
| Patents [\$130,000 – (\$110,000 – \$11,000)] | 31,000 | |
| Recovery of Impairment Loss | | 31,000 |

BRIEF EXERCISE 12-8

Because the recoverable amount of the division exceeds the carrying amount of the assets, goodwill is not considered to be impaired. No entry is necessary.

BRIEF EXERCISE 12-9

| | | |
|-------------------------------------------------|--------|--------|
| Loss on Impairment (\$800,000 – \$750,000)..... | 50,000 | |
| Goodwill | | 50,000 |

The recoverable amount of the reporting unit (\$750,000) is less than the carrying value (\$800,000)—an impairment has occurred. The loss is the difference between the recoverable amount and the carrying value.

BRIEF EXERCISE 12-10

| | | |
|---------------------------------|------------|------------|
| Organization Cost Expense | 60,000,000 | |
| Cash | | 60,000,000 |

BRIEF EXERCISE 12-11

| | | |
|---------------------------------------|---------|---------|
| Capitalized Costs..... | 75,000 | |
| Research and Development Expense..... | 430,000 | |
| Cash | | 505,000 |

BRIEF EXERCISE 12-12

- (a) Capitalize
- (b) Expense
- (c) Capitalize
- (d) Expense
- (e) Expense

BRIEF EXERCISE 12-13

| | <u>Carrying Amount</u> | <u>Life in Months</u> | <u>Amortization Per Month</u> | <u>Months Amortization</u> |
|-----------------------|----------------------------|---------------------------|-----------------------------------|--------------------------------|
| Patent (1/1/10) | \$288,000 | 96 | \$3,000 | 12 |
| Legal costs (12/1/10) | <u>85,000</u> | 85 | <u>\$1,000</u> | <u>1</u> |
| | <u>\$373,000</u> | | | |

| | |
|---------------------------------------------------|------------------|
| Carrying amount..... | \$373,000 |
| Less: Amortization of patent (12 X \$3,000) | (36,000) |
| Legal costs amortization (1 X \$1,000)..... | <u>(1,000)</u> |
| Carrying amount 12/31/10 | <u>\$336,000</u> |

BRIEF EXERCISE 12-14

Copyright No. 1 for \$9,900 should be expensed and therefore not reported on the statement of financial position.

Copyright No. 2 for \$24,000 should be capitalized. Because the useful life is indefinite, copyright No. 2 should be tested at least annually for impairment using a recoverable amount test. It would be reflected on the December 31, 2010 statement of financial position at its cost of \$24,000.

SOLUTIONS TO EXERCISES

EXERCISE 12-1 (15–20 minutes)

(a) 10, 13, 15, 16, 17, 19, 23

- (b)**
- 1. Long-term investments in the statement of financial position.**
 - 2. Property, plant, and equipment in the statement of financial position.**
 - 3. Research and development expense in the income statement.**
 - 4. Current asset (prepaid rent) in the statement of financial position.**
 - 5. Property, plant, and equipment in the statement of financial position.**
 - 6. Research and development expense in the income statement.**
 - 7. Charge as expense in the income statement.**
 - 8. Operating losses in the income statement.**
 - 9. Charge as expense in the income statement.**
 - 11. Not recorded; any costs related to creating goodwill incurred internally must be expensed.**
 - 12. Research and development expense in the income statement.**
 - 14. Research and development expense in the income statement.**
 - 18. Research and development expense in the income statement.**
 - 20. Intangible asset in the statement of financial position.**
 - 21. Long-term investments, or other assets, in the statement of financial position.**
 - 22. Expensed in the income statement.**

EXERCISE 12-2 (10–15 minutes)

The following items would be classified as an intangible asset:

| | |
|------------------------------------|---------------------------------|
| Cable television franchises | Film contract rights |
| Music copyrights | Customer lists |
| Goodwill | Covenants not to compete |
| Internet domain name | Brand names |

Cash, accounts receivable, notes receivable, and prepaid expenses would be classified as current assets.

Property, plant, and equipment, and land would be classified as non-current assets in the property, plant, and equipment section.

EXERCISE 12-2 (Continued)

Investments in associated companies would be classified as part of the investments section of the statement of financial position.

Research and development costs would be classified as an operating expense.

Notes payable is shown as a liability on the statement of financial position.

Organization costs are start-up costs and should be expensed as incurred.

EXERCISE 12-3 (10–15 minutes)

| | | |
|-----|------------------------------------------------------------------------------------------------------|----------------|
| (a) | Trademarks | €20,000 |
| | Excess of cost over fair value of net identifiable assets of acquired subsidiary (goodwill) | <u>75,000</u> |
| | Total intangible assets | <u>€95,000</u> |

(b) Organization costs, €24,000, should be expensed.

Bonds payable, €35,000, should be reported in the non-current liabilities section.

Deposits with advertising agency for ads to promote goodwill of company, €10,000, should be reported either as an expense or as prepaid advertising in the current assets section. Advertising costs in general are expensed when incurred or when first used.

Cost of equipment acquired for research and development projects, €90,000, should be reported with property, plant, and equipment, because the equipment has an alternative use.

Costs of developing a secret formula for a product that is expected to be marketed for at least 20 years, €70,000, should be classified as research and development expense on the income statement.

EXERCISE 12-4 (15–20 minutes)

1. Palmiero should report the patent at \$900,000 (net of \$600,000 accumulated amortization) on the statement of financial position. The computation of accumulated amortization is as follows.

| | |
|-------------------------------------------------------------------|------------------|
| Amortization for 2008 and 2009 ($\$1,500,000/10$) X 2..... | \$300,000 |
| 2010 amortization: $(\$1,500,000 - \$300,000) \div (6 - 2)$ | <u>300,000</u> |
| Accumulated amortization, 12/31/10 | <u>\$600,000</u> |

2. Palmiero should amortize the franchise over its estimated useful life. Because it is uncertain that Palmiero will be able to retain the franchise at the end of 2018, it should be amortized over 10 years. The amount of amortization on the franchise for the year ended December 31, 2010, is \$35,000: $(\$350,000/10)$.
3. These costs should be expensed as incurred. Therefore \$275,000 of organization expense were reported in income for 2008.
4. Because the license can be easily renewed (at nominal cost), it has an indefinite life. Thus, no amortization will be recorded. The license will be tested for impairment in future periods.

EXERCISE 12-5 (15–20 minutes)

| | | |
|---------------------------------------------------|---------|------------------|
| Research and Development Expense..... | 940,000 | |
| Patents | 75,000 | |
| Rent Expense $[(5 \div 7) \times \$91,000]$ | 65,000 | |
| Prepaid Rent $[(2 \div 7) \times \$91,000]$ | 26,000 | |
| Advertising Expense | 207,000 | |
| Income Summary (or a loss account)..... | 141,000 | |
| Bonds Payable | 82,950* | |
| Interest Expense | 1,050 | |
| Share Premium—Ordinary | | 250,000 |
| Intangible Assets | | <u>1,288,000</u> |

* $\$84,000 \div 240 \text{ months} = \350 ; $\$350 \times 3 = \$1,050$; $\$84,000 - \$1,050 = \$82,950$

| | | |
|---------------------------------------------------------------------|-------|--------------|
| Patent Amortization Expense $[(\$75,000 \div 12) \times 1/2]$ | 3,125 | |
| Patents (or Accumulated Amortization)..... | | <u>3,125</u> |

EXERCISE 12-6 (15–20 minutes)

| | | |
|-----------------------------------------------|---------|-----------|
| Patents..... | 435,000 | |
| Goodwill | 360,000 | |
| Franchise | 450,000 | |
| Copyright | 156,000 | |
| Research and Development Expense | | |
| (£215,000 – £55,000)..... | 160,000 | |
| Intangible Assets..... | | 1,561,000 |
| Amortization Expense | 85,500 | |
| Patents (£380,000/8) + (£55,000 X 4/88) | | 50,000 |
| Franchise (£450,000/10 X 6/12) | | 22,500 |
| Copyright (£156,000/5 X 5/12)..... | | 13,000 |

Balance of Intangible Assets as of December 31, 2010

| | | |
|-----------|---|-------------------------------|
| Patents | = | £435,000 – £50,000 = £385,000 |
| Goodwill | = | £360,000 (no amortization) |
| Franchise | = | £450,000 – £22,500 = £427,500 |
| Copyright | = | £156,000 – £13,000 = £143,000 |

EXERCISE 12-7 (10–15 minutes)

- (a) 2009 amortization: $\$18,000 \div 10 = \$1,800$.
12/31/09 book value: $\$18,000 - \$1,800 = \$16,200$.
- 2010 amortization: $(\$16,200 + \$7,800) \div 9 = \$2,667$.
12/31/10 book value: $(\$16,200 + \$7,800 - \$2,667) = \$21,333$.
- (b) 2010 amortization: $(\$16,200 + \$7,800) \div 4 = \$6,000$.
12/31/10 book value: $\$16,200 + \$7,800 - \$6,000 = \$18,000$.
- (c) Carrying amount (\$21,333) > recoverable amount (\$16,000); thus, there is an impairment. The new carrying value is \$16,000—the trade name's recoverable amount.

2011 amortization (after recording impairment loss):

$$\$16,000 \div 8 = \$2,000.$$

$$12/31/11 \text{ book value: } \$16,000 - \$2,000 = \$14,000.$$

EXERCISE 12-8 (10–15 minutes)

| | | |
|-----|------------------------------------------------------------------------------|-----------------|
| (a) | Attorney's fees in connection with organization of the company | \$17,000 |
| | Costs of meetings of incorporators to discuss organizational activities..... | 7,000 |
| | State filing fees to incorporate..... | <u>1,000</u> |
| | Total organization costs..... | <u>\$25,000</u> |

Drafting and design equipment, \$10,000, should be classified as part of fixed assets, rather than as organization costs.

| | | | |
|-----|---------------------------------|--------|--------|
| (b) | Organization Cost Expense | 25,000 | |
| | Cash (Payables) | | 25,000 |

EXERCISE 12-9 (15–20 minutes)

(a) **DEVON HARRIS COMPANY**
Intangibles Section of Statement of Financial Position
December 31, 2010

| | |
|-----------------------------------------------------------------------------------------------|--------------------|
| Patent from Bradtke Company, net of accumulated amortization of \$700,000 (Schedule 1)..... | \$1,800,000 |
| Franchise from Greene Company, net of accumulated amortization of \$58,000 (Schedule 2) | <u>522,000</u> |
| Total intangibles | <u>\$2,322,000</u> |

Schedule 1 Computation of Patent from Bradtke Company

| | |
|----------------------------------------------------------------------|--------------------|
| Cost of patent at date of purchase | \$2,500,000 |
| Amortization of patent for 2009 ($\$2,500,000 \div 10$ years) | <u>(250,000)</u> |
| | 2,250,000 |
| Amortization of patent for 2010 ($\$2,250,000 \div 5$ years)..... | <u>(450,000)</u> |
| Patent balance | <u>\$1,800,000</u> |

Schedule 2 Computation of Franchise from Greene Company

| | |
|-----------------------------------------------------------------|-------------------|
| Cost of franchise at date of purchase | \$ 580,000 |
| Amortization of franchise for 2010 ($\$580,000 \div 10$)..... | <u>(58,000)</u> |
| Franchise balance | <u>\$ 522,000</u> |

EXERCISE 12-9 (Continued)

(b) **DEVON HARRIS COMPANY**
Income Statement Effect
For the Year Ended December 31, 2010

| | | |
|---------------------------------------------|------------------|---------------------------|
| Patent from Bradtke Company: | | |
| Amortization of patent for 2010 | | |
| (\$2,250,000 ÷ 5 years)..... | | \$ 450,000 |
| Franchise from Greene Company: | | |
| Amortization of franchise for 2010 | | |
| (\$580,000 ÷ 10)..... | \$ 58,000 | |
| Payment to Greene Company | | |
| (\$2,500,000 X 5%)..... | 125,000 | 183,000 |
| Research and development costs | | 433,000 |
| Total charged against income | | <u>\$1,066,000</u> |

EXERCISE 12-10 (15–20 minutes)

| | | | | |
|-----|------|-----------------------------------------------|----------------|----------------|
| (a) | 2007 | Research and Development Expense | 170,000 | |
| | | Cash..... | | 170,000 |
| | | Patents | 24,000 | |
| | | Cash..... | | 24,000 |
| | | Patent Amortization Expense | 600 | |
| | | Patents [(\$24,000 ÷ 10) X 3/12]..... | | 600 |
| | 2008 | Patent Amortization Expense | 2,400 | |
| | | Patents (\$24,000 ÷ 10)..... | | 2,400 |

EXERCISE 12-10 (Continued)

| | | | | |
|-----|---------------|-------------------------------------------|--------|--------|
| (b) | 2009 | Patents..... | 12,400 | |
| | | Cash..... | | 12,400 |
| | | Patent Amortization Expense..... | 2,575 | |
| | | Patents (\$1,000 + \$1,575) | | 2,575 |
| | | [Jan. 1–June 1: (\$24,000 ÷ 10) X | | |
| | | 5/12 = \$1,000 | | |
| | | June 1–Dec. 31: (\$24,000 – \$600 – | | |
| | | \$2,400 – \$1,000 + \$12,400) = \$32,400; | | |
| | | (\$32,400 ÷ 12) X 7/12 = \$1,575] | | |
| | 2010 | Patent Amortization Expense..... | 2,700 | |
| | | Patents (\$32,400 ÷ 12)..... | | 2,700 |
| (c) | 2011 and 2012 | Patent Amortization Expense..... | 14,063 | |
| | | Patents (\$28,125 ÷ 2) | | 14,063 |
| | | (\$32,400 – \$1,575 – \$2,700) = \$28,125 | | |

EXERCISE 12-11 (20–25 minutes)

| | | |
|-----|-----------------------------------------------------------|------------------|
| (a) | <u>Patent A</u> | |
| | Life in years | 17 |
| | Life in months (12 X 17)..... | 204 |
| | Amortization per month (W 40,800 ÷ 204) | W 200 |
| | Number of months amortized to date | |
| | <u>Year</u> | <u>Month</u> |
| | 2006 | 10 |
| | 2007 | 12 |
| | 2008 | 12 |
| | 2009 | <u>12</u> |
| | | <u>46</u> |

Book value 12/31/09 ~~W~~31,600: (~~W~~40,800 – [46 X ~~W~~200])

EXERCISE 12-11 (Continued)

Patent B

| | |
|-----------------------------------------------------------|------------------|
| Life in years..... | 10 |
| Life in months (12 X 10) | 120 |
| Amortization per month (W 15,000 ÷ 120) | W 125 |
| Number of months amortized to date | |

| <u>Year</u> | <u>Month</u> |
|-------------|--------------|
| 2007 | 6 |
| 2008 | 12 |
| 2009 | <u>12</u> |
| | <u>30</u> |

Book value 12/31/09 ~~W~~11,250: (~~W~~15,000 – [~~W~~125 X 30])

Patent C

| | |
|----------------------------------------------------------|------------------|
| Life in years..... | 4 |
| Life in months (12 X 4)..... | 48 |
| Amortization per month (W 14,400 ÷ 48) | W 300 |
| Number of months amortized to date | |

| <u>Year</u> | <u>Month</u> |
|-------------|--------------|
| 2008 | 4 |
| 2009 | <u>12</u> |
| | <u>16</u> |

Book value 12/31/09 ~~W~~9,600: (~~W~~14,400 – [~~W~~300 X 16])

At December 31, 2009

| | |
|----------------|---------------------------|
| Patent A | W 31,600 |
| Patent B | 11,250 |
| Patent C | <u>9,600</u> |
| Total | <u>W52,450</u> |

EXERCISE 12-11 (Continued)

(b) Analysis of 2010 transactions

1. The ~~₩217,700~~ incurred for research and development should be expensed.
2. The book value of Patent B is ~~₩11,250~~ and its recoverable amount is ~~₩5,154~~; therefore Patent B is impaired. The impairment loss is computed as follows:

| | |
|----------------------------------------------------------------------------------|---------------------------|
| Book value | ₩11,250 |
| Less: Present value of future cash flows (₩2,000 X 2.57710) | <u>5,154</u> |
| Loss recognized | <u>₩ 6,096</u> |

Patent B carrying amount (12/31/10) ~~₩5,154~~

At December 31, 2010

| | | |
|----------|---------------------------|-------------------------------------------------------------------------------------------------------|
| Patent A | ₩29,200 | (₩31,600 – [12 X ₩200]) |
| Patent B | 5,154 | (Present value of future cash flows) |
| Patent C | 26,000 | (₩9,600 + ₩28,000 – [(12 X ₩300) + (₩1,000 * X 8)]) |
| Patent D | <u>27,000</u> | (₩28,500 – ₩1,500 **) |
| Total | <u>₩87,354</u> | |

*(~~₩28,000~~ ÷ 28 mon.)

**Patent D amortization

| | |
|----------------------------------------------------|-----------------|
| Life in years | 9 1/2 |
| Life in months | 114 |
| Amortization per month (₩28,500 ÷ 114) | ₩250 |
| ₩250 X 6 = ₩1,500 | |

EXERCISE 12-12 (20–25 minutes)

| | | |
|-------------------------------------------|----------------|------------------|
| Net assets of Terrell as reported | | \$225,000 |
| Adjustments to fair value | | |
| Increase in land value | 50,000 | |
| Decrease in equipment value | <u>(5,000)</u> | <u>45,000</u> |
| Net assets of Terrell at fair value | | (270,000) |
| Selling price | | <u>380,000</u> |
| Amount of goodwill to be recorded | | <u>\$110,000</u> |

The journal entry to record this transaction is as follows:

| | | |
|-------------------------------|---------|---------|
| Building | 200,000 | |
| Equipment | 170,000 | |
| Copyright | 30,000 | |
| Land | 120,000 | |
| Cash | 100,000 | |
| Goodwill | 110,000 | |
| Accounts Payable | | 50,000 |
| Long-term Notes Payable | | 300,000 |
| Cash | | 380,000 |

EXERCISE 12-13 (10–15 minutes)

| | | |
|------------------------|---------|---------|
| (a) Buildings | 75,000 | |
| Equipment | 70,000 | |
| Trademarks | 15,000 | |
| Land | 80,000 | |
| Inventory | 125,000 | |
| Receivables | 90,000 | |
| Cash | 50,000 | |
| Goodwill | 95,000* | |
| Accounts Payable | | 200,000 |
| Notes Payable | | 150,000 |
| Cash | | 250,000 |

*\$400,000 – [\$235,000 + \$40,000 + \$25,000 + \$5,000]

Note that the building and equipment would be recorded at the 7/1/10 cost to Brandon; accumulated depreciation accounts would not be recorded.

EXERCISE 12-13 (Continued)

| | | | |
|-----|--------------------------------------------------------------------|-------|-------|
| (b) | Trademark Amortization Expense | 1,500 | |
| | Trademarks ($[\$15,000 - \$3,000] \times 1/4 \times 6/12$) | | 1,500 |

EXERCISE 12-14 (15–20 minutes)

| | | | |
|-----|-------------------------|----------|---------|
| (a) | December 31, 2010 | | |
| | Loss on Impairment..... | 900,000* | |
| | Copyrights..... | | 900,000 |

| | |
|--------------------------|--------------------|
| *Carrying amount | \$4,300,000 |
| Recoverable amount..... | <u>(3,400,000)</u> |
| Loss on impairment | <u>\$ 900,000</u> |

| | | | |
|-----|--------------------------------------|----------|---------|
| (b) | Copyright Amortization Expense | 340,000* | |
| | Copyrights..... | | 340,000 |

| | |
|-----------------------------|-------------------|
| *New carrying amount | \$3,400,000 |
| Useful life | <u>÷ 10 years</u> |
| Amortization per year | <u>\$ 340,000</u> |

| | | | |
|-----|--------------------------------------------------------|---------|---------|
| (c) | Copyright (\$3,500,000) – (\$3,400,000 – \$340,000) .. | 440,000 | |
| | Recovery of Impairment Loss..... | | 440,000 |

EXERCISE 12-15 (15–20 minutes)

| | | | |
|-----|-------------------------|------------|------------|
| (a) | December 31, 2010 | | |
| | Loss on Impairment..... | 25,000,000 | |
| | Goodwill | | 25,000,000 |

The recoverable amount of the reporting unit (\$335 million) is below its carrying value (\$360 million). Therefore, an impairment has occurred. To determine the impairment amount, we compare recoverable amount to the carrying value of the goodwill to determine the amount of the impairment to record.

EXERCISE 12-15 (Continued)

| | |
|----------------------------------------------------|----------------------|
| Fair value of division..... | \$335,000,000 |
| Carrying amount of division, net of goodwill | <u>(160,000,000)</u> |
| Implied value of goodwill..... | 175,000,000 |
| Carrying value of goodwill | <u>(200,000,000)</u> |
| Loss on impairment | <u>\$ 25,000,000</u> |

- (b) No entry necessary. After a goodwill impairment loss is recognized, the adjusted carrying amount of the goodwill is its new accounting basis. Subsequent reversal of previously recognized goodwill impairment losses is not permitted under IFRS.

EXERCISE 12-16 (15–20 minutes)

- (a) In accordance with IFRS, the €325,000 is a research and development cost that should be charged to R&D Expense and, if not separately disclosed in the income statement, the total cost of R&D should be separately disclosed in the notes to the financial statements.

(b)

| | | |
|--------------------------------------------|--------|---------|
| Patents..... | 36,000 | |
| Research and Development Expense | 94,000 | |
| Cash, Accts. Payable, etc..... | | 130,000 |
| (To record research and development costs) | | |

| | | |
|-----------------------------------------------------------------------------------|--------|--------|
| Patents..... | 24,000 | |
| Cash, Accts. Payable, etc..... | | 24,000 |
| (To record legal and administrative costs incurred to obtain patent #472-1001-84) | | |

| | | |
|---------------------------------------------------------------------|--------|--------|
| Patent Amortization Expense | 12,000 | |
| Patents | | 12,000 |
| [To record one year's amortization expense (€60,000 ÷ 5 = €12,000)] | | |

EXERCISE 12-16 (Continued)

| | | | |
|-----|------------------------------------------------------------|--------|--------|
| (c) | Patents | 47,200 | |
| | Cash, Accts. Payable, etc. | | 47,200 |
| | (To record legal cost of successfully defending patent) | | |

The cost of defending the patent is capitalized because the defense was successful and because it extended the useful life of the patent.

| | | |
|-----------------------------------|--------|--------|
| Patent Amortization Expense | 11,900 | |
| Patents..... | | 11,900 |

(To record one year's amortization
Expense:

€60,000 – €12,000 = €48,000;

€48,000 ÷ 8 = € 6,000

€47,200 ÷ 8 = 5,900

Amortization expense for 2011 €11,900

Or

Carrying value after 1 year €48,000

Cost to defend 47,200

€95,200

Expense: €95,200 ÷ 8 = €11,900

- (d) Additional engineering and consulting costs required to advance the design of a product to the manufacturing stage are R&D costs. As indicated in the chapter it is R&D because it translates knowledge into a plan or design for a new product.

EXERCISE 12-17 (10–15 minutes)

Depreciation of equipment acquired that will have alternate
uses in future R&D projects over

| | |
|--------------------------------------------------------------------|-------------------|
| the next 5 years ($\$330,000 \div 5$)..... | \$ 66,000 |
| Materials consumed in R&D projects..... | 59,000 |
| Consulting fees paid to outsiders for R&D projects | 100,000 |
| Personnel costs of persons involved in R&D projects | 128,000 |
| Indirect costs reasonably allocable to R&D projects | <u>50,000</u> |
| Total to be expensed in 2010 for research and development | <u>\$403,000*</u> |

*Materials purchased for future R&D projects should be reported as an asset.

TIME AND PURPOSE OF PROBLEMS

Problem 12-1 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to appropriately reclassify amounts charged to a single intangible asset account. Capitalized in the account are amounts representing franchise costs, prepaid rent, organization fees, prior net loss, patents, goodwill, and R&D costs. The student must also be alert to the fact that several transactions require that an adjustment of Retained Earnings be made. The problem provides a good summary of accounting for intangibles.

Problem 12-2 (Time 20–30 minutes)

Purpose—to provide the student with an opportunity to compute the carrying value of a patent at three statement of financial position dates. The student must distinguish between expenditures that are properly included in the patent account and R&D costs which must be expensed as incurred. Computation of amortization is slightly complicated by additions to the account and a change in the estimated useful life of the patents. A good summary of accounting for patents and R&D costs.

Problem 12-3 (Time 20–30 minutes)

Purpose—to provide the student the opportunity to determine the cost and amortization of a franchise, patent, and trademark and to show how they are disclosed on the statement of financial position. The student prepares a schedule of expenses resulting from the intangibles transactions.

Problem 12-4 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to determine income statement and statement of financial position presentation for costs related to research and development of patents. The problem calls on the student to determine whether costs incurred are properly capitalized or expensed. The problem addresses the basic issues involved in accounting for R&D costs and patents.

Problem 12-5 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to determine the amount of goodwill in a business combination and to determine the goodwill impairment.

Problem 12-6 (Time 30–35 minutes)

Purpose—to provide the student with an opportunity to determine carrying value of intangible assets (limited life, indefinite life, and goodwill) at two statement of financial position dates. The problem also requires students to determine impairments, if necessary on the intangible assets.

SOLUTIONS TO PROBLEMS

PROBLEM 12-1

| | | |
|-----------------------------------------------------------------------------|---------|---------|
| Franchises | 48,000 | |
| Prepaid Rent | 24,000 | |
| Retained Earnings (Organization Costs of \$6,000 in 2009) | 6,000 | |
| Retained Earnings (\$16,000 – \$6,000) | 10,000 | |
| Patents (\$84,000 + \$12,650 + \$45,000) | 141,650 | |
| Research and Development Expense (\$75,000 + \$160,000 – \$45,000) | 190,000 | |
| Goodwill | 278,400 | |
| Intangible Assets | | 698,050 |
| Franchise Amortization Expense (\$48,000 ÷ 8) | 6,000 | |
| Retained Earnings (\$48,000 ÷ 8 X 6/12) | 3,000 | |
| Franchises | | 9,000 |
| Rent Expense (\$24,000 ÷ 2) | 12,000 | |
| Retained Earnings (\$24,000 ÷ 2 X 3/12) | 3,000 | |
| Prepaid Rent | | 15,000 |
| Patent Amortization Expense | 10,777 | |
| Patents (\$84,000 ÷ 10) + (\$12,650 X 7/115) + (\$45,000 X 4/112) | | 10,777 |

Note: No amortization of goodwill; goodwill should be tested for impairment on at least an annual basis in future periods.

PROBLEM 12-2

| | | |
|-----|-----------------------------------------------|-----------------|
| (a) | Costs to obtain patent Jan. 2004..... | \$59,500 |
| | 2004 amortization ($\$59,500 \div 17$)..... | <u>(3,500)</u> |
| | Carrying value, 12/31/04 | <u>\$56,000</u> |

All costs incurred prior to January 2004 are related to research and development activities and were expensed as incurred in accordance with IFRS.

| | | |
|-----|-----------------------------------------------|------------------|
| (b) | 1/1/05 carrying value of patent..... | \$ 56,000 |
| | 2005 amortization ($\$59,500 \div 17$)..... | \$3,500 |
| | 2006 amortization | <u>3,500</u> |
| | | 49,000 |
| | Legal fees to defend patent 12/06 | <u>42,000</u> |
| | Carrying value, 12/31/06 | 91,000 |
| | Capitalized research costs 5/07..... | 49,000 |
| | 2007 amortization ($\$91,000 \div 14$) + | |
| | (\$49,000 \div 14)..... | 10,000 |
| | 2008 amortization ($\$91,000 \div 14$) + | |
| | (\$49,000 \div 14)..... | <u>10,000</u> |
| | Carrying value, 12/31/08 | <u>\$120,000</u> |

The costs incurred in 2005 are related to research and development activities and are expensed as incurred.

| | | |
|-----|-----------------------------------------------|------------------|
| (c) | 1/1/09 carrying value | \$120,000 |
| | 2009 amortization ($\$120,000 \div 5$)..... | \$24,000 |
| | 2010 amortization | 24,000 |
| | 2011 amortization | <u>24,000</u> |
| | Carrying value, 12/31/11 | <u>(72,000)</u> |
| | | <u>\$ 48,000</u> |

The legal costs in 2011 were expensed because the suit was unsuccessful.

| |
|---------------------|
| PROBLEM 12-3 |
|---------------------|

(a)

SANDRO CORPORATION

Intangible Assets

December 31, 2010

| | |
|-------------------------------------------------------|------------------|
| Franchise, net of accumulated amortization of \$5,870 | |
| (Schedule 1) | \$ 52,830 |
| Patent, net of accumulated amortization of \$2,200 | |
| (Schedule 2) | 15,400 |
| Trademark, net of accumulated amortization of \$6,600 | |
| (Schedule 3) | 39,600 |
| Total intangible assets | <u>\$107,830</u> |

Schedule 1

Franchise

| | |
|---------------------------------------------------------|------------------|
| Cost of franchise on 1/1/10 (\$15,000 + \$43,700) | \$ 58,700 |
| 2010 amortization (\$58,700 X 1/10) | <u>(5,870)</u> |
| Cost of franchise, net of amortization | <u>\$ 52,830</u> |

Schedule 2

Patent

| | |
|-------------------------------------------|------------------|
| Cost of securing patent on 1/2/10 | \$ 17,600 |
| 2010 amortization (\$17,600 X 1/8) | <u>(2,200)</u> |
| Cost of patent, net of amortization | <u>\$ 15,400</u> |

Schedule 3

Trademark

| | |
|-----------------------------------------------------------------|------------------|
| Cost of trademark on 7/1/07 | \$ 36,000 |
| Amortization, 7/1/07 to 7/1/10 (\$36,000 X 3/20) | <u>(5,400)</u> |
| Book value on 7/1/10 | 30,600 |
| Cost of successful legal defense on 7/1/10 | <u>10,200</u> |
| Book value after legal defense | 40,800 |
| Amortization, 7/1/10 to 12/31/10 (\$40,800 X 1/17 X 6/12) | <u>(1,200)</u> |
| Cost of trademark, net of amortization | <u>\$ 39,600</u> |

PROBLEM 12-3 (Continued)

(b) SANDRO CORPORATION
Expenses Resulting from Selected Intangible Assets Transactions
For the Year Ended December 31, 2010

| | |
|-------------------------------------------|-----------------|
| Interest expense (\$43,700 X 14%)..... | \$ 6,118 |
| Franchise amortization (Schedule 1) | 5,870 |
| Franchise fee (\$900,000 X 5%)..... | 45,000 |
| Patent amortization (Schedule 2) | 2,200 |
| Trademark amortization (Schedule 4)..... | <u>2,100</u> |
| Total intangible assets | <u>\$61,288</u> |

Note: The \$65,000 of research and development costs incurred in developing the patent would have been expensed prior to 2010.

| | | |
|----------------------------------------------------------------|--------------------------------------|--|
| <u>Schedule 4</u> | <u>Trademark Amortization</u> | |
| Amortization, 1/1/10 to 6/30/10 (\$36,000 X 1/20 X 6/12)..... | \$ 900 | |
| Amortization, 7/1/10 to 12/31/10 (\$40,800 X 1/17 X 6/12)..... | <u>1,200</u> | |
| Total trademark amortization | <u>\$2,100</u> | |

PROBLEM 12-4

- (a) Income statement items and amounts for the year ended December 31, 2010:

| | |
|---------------------------------------------------------|-----------|
| Research and development expenses* | \$148,000 |
| Amortization of patent ($\$88,000 \div 10$ years)..... | 8,800 |

*The research and development expenses could be listed by the components rather than in one total. The detail of the research and development expenses are as follows:

| | |
|-----------------------------------------------------------------|-----------|
| Depreciation—building ($\$320,000 \div 20$ years) | \$ 16,000 |
| Salaries and employee benefits ($\$195,000 - \$90,000$) | 105,000 |
| Other expenses ($\$77,000 - \$50,000$) | 27,000 |

- (b) Statement of financial position items and amounts as of December 31, 2010:

| | |
|-----------------------------------------------------------------|-----------|
| Land | \$ 60,000 |
| Building (net of accumulated depreciation of \$16,000) | 304,000 |
| Patent (net of amortization of \$15,400)* | 72,600 |
| Capitalized development costs ($\$90,000 + \$50,000$)..... | 140,000 |

* $([\$88,000 \div 10] \times 3/4) + (\$88,000 \div 10)$

All research and development costs incurred on abandoned projects and projects in process should be charged to expense when incurred. The research and development costs incurred on completed projects with long-term benefits are recorded as Capitalized development costs.

The patent was acquired for manufacturing rights rather than for use in research and development activities. Consequently, the cost of the patent can be capitalized as an intangible asset and amortized over its useful life.

| |
|---------------------|
| PROBLEM 12-5 |
|---------------------|

- (a) **Goodwill = Excess of the cost of the division over the fair value of the identifiable assets:**

$$\$3,000,000 - \$2,750,000 = \$250,000$$

- (b) **No impairment loss is recorded, because the recoverable amount of Conchita (\$1,850,000) is greater than carrying value of the net assets (\$1,650,000).**

- (c) **Computation of impairment:**

Goodwill impairment = Recoverable amount of division less the carrying value of the division (adjusted for fair value changes), net of goodwill:

| | |
|----------------------------------------------|---------------------|
| Recoverable amount of Conchita division..... | \$1,600,000 |
| Carrying value of division | <u>1,800,000</u> |
| Impairment loss | <u>(\$ 200,000)</u> |

- | | | |
|------------------------------------|------------------|----------------|
| (d) Loss on Impairment..... | \$200,000 | |
| Goodwill..... | | 200,000 |

This loss will be reported in income as a separate line item before the subtotal “income from continuing operations.”

PROBLEM 12-6

(a) **MONTANA MATT'S GOLF INC.**
Intangibles Section of Statement of Financial Position
December 31, 2009

| | |
|------------------------------------------------------------------------|-----------------|
| Trade name | £ 10,000 |
| Copyright (net accumulated amortization of £300) (Schedule 1) | 23,700 |
| Goodwill (Schedule 2) | <u>170,000</u> |
| Total intangibles | <u>£203,700</u> |

Schedule 1 Computation of Value of Old Master Copyright

| | |
|----------------------------------------------------------------------------------------|-----------------|
| Cost of copyright at date of purchase | £ 24,000 |
| Amortization of Copyright for 2009 $[(£24,000 \div 40) \times 1/2 \text{ year}]$ | <u>(300)</u> |
| Cost of copyright at December 31 | <u>£ 23,700</u> |

Schedule 2 Goodwill Measurement

| | |
|----------------------------------|------------------|
| Purchase price | £770,000 |
| Fair value of assets | £800,000 |
| Fair value of liabilities | <u>(200,000)</u> |
| Fair value of net assets | <u>(600,000)</u> |
| Value assigned to goodwill | <u>£170,000</u> |

Amortization expense for 2009 is £300 (see Schedule 1). There is no amortization for the goodwill or the trade name, both of which are considered indefinite life intangible assets.

| | | |
|------------------------------------------|-----|-----|
| (b) Copyright Amortization Expense | 600 | |
| Copyright $(£24,000 \div 40)$ | | 600 |

There is a full year of amortization on the Copyright. There is no amortization for the goodwill or the trade name, which is considered an indefinite life intangible.

PROBLEM 12-6 (Continued)

MONTANA MATT'S GOLF INC.
Intangibles Section of Statement of Financial Position
December 31, 2010

| | |
|------------------------------------------------------------------------|-----------------|
| Trade name | £ 10,000 |
| Copyright (net accumulated amortization of £900) (Schedule 1) | 23,100 |
| Goodwill | 170,000 |
| Total intangibles..... | <u>£203,100</u> |

Schedule 1 Computation of Value of Old Master Copyright

| | |
|--------------------------------------------------------------------------------|-----------------|
| Cost of Copyright at date of purchase | £ 24,000 |
| Amortization of Copyright for 2009, 2010 [(£24,000 ÷ 40) X 1.5 years] | <u>(900)</u> |
| Cost of copyright at December 31 | <u>£ 23,100</u> |

| | | |
|------------------------------------|--------|---------|
| (c) Loss on Impairment | 87,000 | |
| Goodwill | | 80,000* |
| Trade name (£10,000 – £3,000)..... | | 7,000 |

***Recoverable amount of Old Master**

| | |
|-----------------------------------------|------------------|
| reporting unit..... | £420,000 |
| Carry value of the reporting unit | <u>(500,000)</u> |
| Impairment | <u>£ 80,000</u> |

The Goodwill is considered impaired because the recoverable amount of the business unit (£420,000) is less than its carrying value (£500,000). The copyright is not considered impaired because the expected net future cash flows (£30,000) exceed the carrying amount (£24,000).

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 12-1 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to determine which development costs are expensed and which are capitalized. The student is required to discuss how the accounting for development costs impacts a company's income statement and statement of financial position. Finally, the student must identify the criteria for determining "economic viability".

CA 12-2 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to determine the proper classification of certain expenditures related to organizing a business. The student is required to deal with such issues as costs incurred for interest expense during construction, the cost of promotional advertising, and expenditures related to obtaining tenants for a shopping center. Classification of these items is complicated due to a postponement in the starting of business operations. A challenging and interesting case which should provide good background for a discussion of the theoretical support for capitalizing organization costs.

CA 12-3 (Time 25–30 minutes)

Purpose—to present an opportunity for the student to discuss accounting for patents from a theoretical and a practical viewpoint. The student is required to explain the "discounted value of expected net receipts" method of accounting for patents and to provide support for using cost as the generally accepted valuation method. The student is also required to comment on the theoretical basis of patent amortization. Finally the student must determine proper disclosure in the financial statements for a patent infringement suit which is in progress at the statement of financial position date. This case challenges the student to present theoretical support and practical application beyond that presented in the text.

CA 12-4 (Time 25–30 minutes)

Purpose—to provide the student with an opportunity to discuss the theoretical support for and practical applications of the IASB's position on research and development costs. The student is required to define the terms "research" and "development" as used by the IASB, to provide theoretical support for the IASB's position, and to apply the provisions to a situation presented in the case. A good case to thoroughly cover research and development costs.

CA 12-5 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to examine the ethical issues related to expensing research and development costs.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 12-1

(a) Research and Development Costs

| | Research and Development Expense | Capitalized Patent |
|-------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------|
| Dogwood incurred legal and processing fees to file and record a patent for the technology | | €10,000 |
| Laboratory and materials fees to identify a working system..... | €23,000 | |
| Prototype development and testing | 34,000 | |
| Final development of product based on earlier tests..... | | 45,000 |
| Total expense/cost | <u>€57,000</u> | <u>€55,000</u> |

As indicated, Dogwood records as Research and Development Expense all costs incurred in the project prior to meeting the economic viability criteria (€57,000).

- (b) By capitalizing the €45,000 final development costs, Dogwood's current period income and intangible assets are higher. In future periods, Dogwood's income and intangible assets will decrease by the amount of amortization recorded on the capitalized costs (€45,000).
- (c) Economic viability indicates that a project is far enough along in the process such that the economic benefits of the R&D project will flow to the company.

CA 12-2

Interest on mortgage bonds. An amount equal to the interest cost incurred in 2009 (\$720,000) is a cost which can be associated with the normal construction period and can be regarded as a normal element of the cost of the physical assets of the shopping center because the construction period would have ended at the end of the year if the tornado had not occurred. The decision to use debt capital to finance the shopping center was made with full knowledge that interest would accrue during the construction period and add to the total cost of building the center, bringing it to the point at which it would produce revenue. The future income to be generated by the shopping center must have been estimated to be more than sufficient to recover all of the expected costs of building the center and preparing it for occupancy, including interest during the construction period.

In lieu of treating interest during construction as an element of the cost of the physical assets, it can be argued that it represents an element of the general cost of bringing the business to the point of revenue production and should therefore be treated as an organization expense. This view regards interest during construction as just another of the many expenditures that are necessary to acquire and organize the physical assets of a new business but do not attach to any specific assets.

Note that interest must be capitalized in this situation (see chapter 10) because the building requires a period of time to get it ready for its intended use.

CA 12-2 (Continued)

The amount of interest cost for the first nine months of 2010 is the measure of the 2010 loss resulting from the tornado. The extension of the construction period to October 2010 because of the tornado does not warrant its capitalization as construction period interest. It is in effect an uninsured loss resulting from the tornado. Had it not been for the tornado, the entire amount would have been a normal operating expense chargeable against the rental revenue that would have been earned during the first nine months of 2010.

Cost of obtaining tenants. Both the 2009 and 2010 costs of obtaining tenants should be expensed as incurred. The cost of obtaining tenants is a start-up cost. The accounting for start-up costs is straightforward—expense these costs as incurred. The profession recognizes that these costs are incurred with the expectation that future revenues will occur or increased efficiencies will result. However, to determine the amount and timing of future benefits is so difficult that a conservative approach—expense these costs as incurred—is required.

Promotional advertising. The profession has concluded that, except in limited situations, future benefits from advertising are not sufficiently defined or measurable with a degree of reliability that is required to recognize these costs as an asset. As a result, the costs should be expensed as incurred or the first time the advertising takes place. The advertising costs incurred in 2010 might be reported as a loss to indicate that an unusual event caused this additional expense.

CA 12-3

- (a) A dollar to be received in the future is worth less than a dollar received today because of an interest or discount factor—often referred to as the time value of money. The discounted value of the expected royalty receipts can be thought of either in terms of the present value of an annuity of 1 or in terms of the sum of several present values of 1.
- (b) If the royalty receipts are expected to occur at regular intervals and the amounts are to be fairly constant, their discounted value can be calculated by multiplying the value of one such receipt by the present value of an annuity of 1 for the number of periods the receipts are expected. On the other hand, if receipts are expected to be irregular in amount or if they are to occur at irregular intervals, each expected future receipt would have to be multiplied by the present value of 1 for the number of periods of delay expected. In each case some interest rate (discount factor) per period must be assumed and used. As an example, if receipts of \$10,000 are expected each six months over the next ten years and an 8% annual interest rate is selected, the present value of the twenty \$10,000 payments is equal to \$10,000 times the present value of an annuity of 1 for 20 periods at 4%. Twice as many periods as years and half the annual interest rate of 8% are used because the payments are expected at semiannual intervals. Thus the discounted (present) value of these receipts is \$135,903 (\$10,000 X 13.5903). Because of the interest rate, this discounted value is considerably less than the total expected collection of \$200,000. Continuing the example, if instead it is expected that \$10,000 will be received six months hence, \$20,000 one year from now, and a terminal payment of \$15,000 is expected 18 months hence, the calculation is as follows:

$\$10,000 \times \text{present value of 1 at 4\% for 1 period} = \$10,000 \times .96154 = \$9,615.$

$\$20,000 \times \text{present value of 1 at 4\% for 2 periods} = \$20,000 \times .92456 = \$18,491.$

$\$15,000 \times \text{present value of 1 at 4\% for 3 periods} = \$15,000 \times .88900 = \$13,335.$

Adding the results of these three calculations yields a total of \$41,441 (rounded), considerably less than the \$45,000 total collections, again due to the discount factor.

CA 12-3 (Continued)

- (c) The basis of valuation for patents that is generally accepted in accounting is cost. Evidently the cartons were developed and the patents obtained directly by the client corporation. Those costs related to the research and development (prior to achieving economic viability) of the cartons must be expensed in accordance with **IFRS**. Any development costs incurred after achieving economic viability should be capitalized. If the infringement suit is unsuccessful, an evaluation of the value of the patent should be made to ascertain the reasonableness of carrying forward the patent cost. If the suit is successful, the attorney's fees and other costs of protecting the patent should be capitalized and amortized over its remaining useful or legal life, whichever is shorter.
- (d) Intangible assets represent rights to future benefits. The ideal measure of the value of intangible assets is the discounted present value of their future benefits. For Ferry Company, this would include the discounted value of expected net receipts from royalties, as suggested by the financial vice-president, as well as the discounted value of the expected net receipts to be derived from Ferry Company's production. Other valuation bases that have been suggested are current cash equivalent or fair value.
- (e) The amortization policy is implied in the definition of intangible assets as rights to future benefits. As the benefits are received by the firm, the cost or other value should be charged to expense or to inventory to provide a proper matching of revenues and expenses. Under the discounted value approach, the periodic amortization would be the decline during the year in the present value of expected net receipts. In practice, generally straight-line amortization is used because it is simple and provides a uniform amortization approach.
- (f) The litigation can and should be mentioned in notes to the financial statements. Some indication of the expectations of legal counsel in respect to the outcome can properly accompany the statements. It would be inappropriate to record a contingent asset reflecting the expected damages to be recovered. Costs incurred to September 30, 2010, in connection with the litigation should be carried forward and charged to expense (or to loss if the cases are lost) as royalties (or damages) are collected from the parties against whom the litigation has been instituted; however, the conventional treatment would be to charge these costs as ordinary legal expenses. If the final outcome of the litigation is successful, the costs of prosecuting it should be capitalized. Similarly, if the client were the successful defendant in an infringement suit on these patents, the usual accounting practice would be to add the costs of the legal defense to the Patents account.

Developments between the statement of financial position date and the date that the financial statements are released would properly be reflected in notes to the statements as post-statement of financial position (or subsequent events) disclosure.

CA 12-4

- (a) **Research**, as defined in **IFRS**, is "original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding."

Development, as defined in **IFRS**, is "application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, systems or services before the start of commercial production or use."

CA 12-4 (Continued)

- (b) The current accounting and reporting practices for research and development costs (incurred before achieving economic viability) were promulgated by the IASB in order to reduce the number of alternatives that previously existed and to provide useful financial information about research and development costs. The IASB considered four alternative methods of accounting: (1) charge all costs to expense when incurred, (2) capitalize all costs when incurred, (3) selective capitalization, and (4) accumulate all costs in a special category until the existence of future benefits can be determined. The IASB concluded that all research and development costs should be charged to expense as incurred. Accounting for the costs of research and development activities conducted for others under a contractual arrangement is a part of accounting for contracts in general and is addressed in other literature .

In reaching this decision, the IASB considered the three pervasive principles of expense recognition: (1) associating cause and effect, (2) systematic and rational allocation, and (3) immediate recognition. The IASB found little or no evidence of a direct causal relationship between current research and development expenditures and subsequent future benefits. The IASB also stated that the high degree of uncertainty surrounding future benefits, if any, of individual research and development projects make it doubtful that there is any useful purpose to be served by capitalizing the costs and allocating them over future periods. In view of the above, the IASB concluded that the first two principles of expense recognition do not apply, but rather that the “immediate recognition” principle of expense recognition should apply.

The high degree of uncertainty about whether research and development expenditures will provide any future benefits, the lack of objectivity in setting criteria, and the lack of usefulness of the resulting information led the IASB to reject the alternatives of capitalization, selective capitalization, and accumulation of costs in a special category.

- (c) The following costs attributable only to research and development should be expensed as incurred:
- Design and engineering studies.
 - Prototype manufacturing costs.
 - Administrative costs related solely to research and development.
 - The cost of equipment produced solely for development of the product (\$315,000).

The remaining \$585,000 of equipment should be capitalized and shown on the statement of financial position at cost, less accumulated depreciation. The depreciation expense resulting from the current year is a part of research and development expense for the year. The market research direct costs and related administrative expenses are not research and development costs. These costs are treated as period costs and are shown as expense items in the current income statement.

- (d) Economic viability indicates that a project is far enough along in the process such that the economic benefits of the R&D project will flow to the company. Development costs incurred from that point forward meet the recognition criteria and should be recorded as an intangible asset.

CA 12-5

- (a) Investors and creditors are concerned with corporate profits, dividends, and cash flow. Employees in Czeslaw Corporation's R&D department are concerned about job security if the company begins to hire outside firms rather than have work done internally. Reid must be concerned with his performance and reputation within the company as well.
- (b) Ethical issues include long-term versus short-term profits, concern for job security, loyalty to fellow employees, and an efficient operation.
- (c) Reid should do what is best for Czeslaw Corporation in the long run. He should choose to have the project done where the work will be done well and at the lowest cost. Whether expenses will appear in the income statement immediately or will be capitalized and allocated over a period of years should NOT be the driving factor in making the decision. He should be able to explain his decision to higher-ups and illustrate the different required accounting treatments. He also should give some thought to the impact on employee morale if he does not use the company's own R&D department.

FINANCIAL REPORTING PROBLEM

- (a) **M&S shows Intangible Assets on the statement of financial position. In its footnotes, M&S reposts Goodwill, Brands, Computer Software, and Computer Software Under Development. Goodwill of £117.9 million was reported at 29 March 2008.**
- (b) **M&S reported selling and marketing expenses of £1,779.2 million in 2007 and £1,912.7 million in 2008. These expenses were significant compared to M&S's revenue—20.7% of revenue in 2007 and 21.2 in 2008.**

COMPARATIVE ANALYSIS CASE

- (a) (1) Cadbury reports: Goodwill £2,288M, Acquisition intangibles £1,598M, and Software intangibles £87M. Nestlé reports: Goodwill and Intangible Assets of CHF37,504M.
- (2) Cadbury: Intangible assets are 44.7% of total assets.
Nestlé: Intangible assets are 35.3% of total assets.
- (3) For Cadbury, intangible assets decreased £2,359M from £6,332M to £3,973M. For Nestlé, intangible assets decreased CHF3,136M from CHF40,640M to CHF37,504M.
- (b) (1) Cadbury amortizes customer relationships over 5–10 years and software intangibles over no greater than 8 years. Nestlé amortizes finite-lived intangibles over 5–20 years and management information systems over 3–5 years.
- (2) Cadbury had accumulated amortization of £183M and £62M on December 31, 2008 and 2007, respectively. Nestlé had accumulated amortization of CHF2,063M and CHF2,540M at year-end 2007 and 2008, respectively.
- (3) Cadbury identified the composition of its intangible assets as follows:

| | |
|-------------------------|----------------|
| Acquisition intangibles | £1,598M |
| Goodwill | 2,288 |
| Software intangibles | 87 |
| | <u>£3,973M</u> |

Nestlé identified its intangible assets as follows:

| | |
|-------------------|-------------------|
| Goodwill | CHF30,637M |
| Intangible assets | 6,867 |
| | <u>CHF37,504M</u> |

MERCK AND JOHNSON & JOHNSON

- (a) The primary intangible assets of a healthcare products company would probably be patents, goodwill and trademarks. The nature of each of these is quite different; thus, an investor would normally want to know what the composition of intangible assets is if it is material.**
- (b) Many corporate executives complain that investors are too concerned about the short-term and don't reward good long-term planning. As a consequence, they feel that the requirement that research and development expenditures be expensed immediately penalizes those executives who do invest in the future. As a consequence, when net income does not look good, it is always tempting to cut research and development expenditures, since this will cause a direct increase in current year reported profits. Of course, it will also diminish the company's long-term prospects.**
- (c) If a company reports goodwill on its statement of financial position, it can only have resulted from one thing—the company must have purchased another company. This is because companies are not allowed to record internally created goodwill. They can only report purchased goodwill. Ironically, if you want to report a large amount of goodwill, all you have to do is overpay when you purchase another company—the more you overpay, the more goodwill you will report. Obviously, reporting a lot of goodwill is not such a good thing.**

FINANCIAL STATEMENT ANALYSIS CASE 2

- (a) The depressed market values (less than book value) suggest that market participants are not very optimistic about the future prospects for these companies. Accounting numbers are based in many cases on historical costs, while market prices will reflect new information about the company prospects. This situation does not look very promising.
- (b) Because the market (fair) value of each company is less than its book value of its net assets, it fails the first step in the goodwill impairment test; an impairment should be recorded.

| A | B | C | D | E | F | G | H |
|-------------------|--------------|-------------------------|----------------------------|------|------------------------------------|------------------------------|---------------------|
| | | | | | (Columns C–D) | (Columns B–F) | (Columns D–G) |
| Company | Market Value | Book Value (Net Assets) | Carrying Value of Goodwill | ROA | Estimated Fair Value of Net Assets | Implied GW (NA-Market Value) | Goodwill Impairment |
| Sprint Nextel | \$36,361 | \$51,271 | \$30,718 | 3.5% | \$20,553 | \$15,808 | \$14,910 |
| Washington Mutual | 11,742 | 23,941 | 9,062 | 2.4% | 14,879 | 0 | 9,062 |
| E*Trade Financial | 1,639 | 4,104 | 2,035 | 5.6% | 2,069 | 0 | 2,035 |
| | | | | | | Total | \$26,007 |

- (c) As indicated in the expanded spreadsheet above, unless their market value increases dramatically, each of these companies is likely to recognize a goodwill impairment. For Washington Mutual and E*Trade, the impairment will result in a complete write-off of the goodwill asset. Apparently, the prior acquisitions from which the goodwill was recorded did not pan out for these companies.

| | | |
|--------------------------|--------|--------|
| Loss on Impairment | 26,007 | |
| Goodwill..... | | 26,007 |

- (d) Impairment losses are reported in operating income. Thus, the impairments will reduce the numerator in the return on asset ratio. Without recognition of the impairments, these companies' operating performance is overstated relative to companies in their cohort. However, the denominator is also reduced, which increases ROA in the future.

INTERNATIONAL REPORTING CASE

- (a) **ROE = Net Income ÷ Shareholders' Equity**

Bayer— $603 \div 12,268 = 4.92\%$

Glaxo Smithkline— $4,302 \div 10,091 = 42.63\%$

Merck— $5,813 \div 17,288 = 33.6\%$

Based on ROE, Glaxo-Smithkline exhibits the strongest profitability of these three companies at 42.6%. Bayer reports the lowest ROE at 4.9%. Examining the trend for each company and comparing it to other companies in the same country would also be useful in comparing these companies' profitabilities.

- (b) Glaxo Smithkline indicates that goodwill may be amortized over a range of periods—up to 20 years. Goodwill amortization is not allowed under U.S. GAAP and IFRS. Thus, even if all companies use the maximum amortization period, it would be difficult to compare their amortization expenses and income measures.

Unless U.K. companies adopt a no amortization policy, a lack of comparability exists.

- (c) **Goodwill adjustments:**

| Related information | Bayer (DM millions) | Glaxo Smithkline (Pounds millions) | Merck (\$ millions) |
|---------------------------------------|------------------------|---------------------------------------|------------------------|
| (a) Amortization Expense | 0 | 12 | 0 |
| (b) Net Income | 603 | 4,302 | 5,813 |
| Adjusted Income (a + b) | 603 | 4,314 | 5,813 |
| (c) Accumulated Goodwill Amortization | 0 | 84 | 0 |
| (d) Shareholders' Equity | 12,268 | 10,091 | 17,288 |
| Adjusted SE (c + d) | 12,268 | 10,175 | 17,288 |
| ROE (from ref. a) | 4.92% | 42.6% | 33.6% |
| Adjusted ROE (a + b) ÷ (c + d) | 4.92% | 42.4% | 33.6% |

INTERNATIONAL REPORTING CASE (Continued)

Making these adjustments results in a slightly lower ROE for Glaxo Smithkline. This is due to the relatively large goodwill asset that has been written off by Glaxo. Bayer's and Merck's ROE remains the same since they do not amortize goodwill per IFR Standards and FASB. Some analysts believe that goodwill should not be written off unless it is impaired. Per International Accounting Standards No. 36, goodwill is no longer amortized and is written off only if it is impaired. If written off, this understates assets and equity, resulting in an overstatement of profitability measures such as ROE and return on assets. This denominator effect can be more pronounced than the effects of amortization expense on income in the numerator of these ratios.

- (d) If some companies capitalize development expenses, this will result in higher reported assets and income (because R&D expense will be understated relative to U.S. GAAP). Thus any ratios relying on income and reported assets (ROA, ROE, Asset Turnover, etc.) should be adjusted for these effects. As long as the development costs and the development assets are disclosed, adjustments can be made to Bayer's reports to make them comparable to Merck's, similar to the adjustments made in Part (c).**

ACCOUNTING

There is a full year of amortization on the copyright. There is no amortization for the trade name, which is considered an indefinite-life intangible.

Amortization expense = $\$15,000/10 = \$1,500$

| | | |
|--------------------------------------|-------|-------|
| Copyright Amortization Expense | 1,500 | |
| Copyright..... | | 1,500 |

The recoverable amount of \$16,000 is greater than the carrying value. Thus, the copyright is not impaired: The trade name is tested for impairment using a recoverable amount test. Thus, Raconteur writes it down to the recoverable amount of \$5,000, recording an impairment charge of $\$8,500 - \$5,000 = \$3,500$.

| | | |
|--------------------------|-------|-------|
| Loss on Impairment | 3,500 | |
| Trade Name..... | | 3,500 |

ANALYSIS

Impairment losses are recorded in operating income. Because impairment losses tend to be nonrecurring items, their recognition can make operating income more volatile from year to year. This volatility effect can be particularly severe for indefinite-life intangibles, such as a trade name or goodwill. The higher carrying values (due to no amortization), combined with the annual impairment test, can result in impairment losses having a significant impact on operating income.

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

PRINCIPLES

The accounting for impairments provides relevant information about intangible assets by indicating in a timely fashion that intangible assets have declined in value. However, providing this timely information requires significant subjective judgments related to estimating recoverable amounts in determining the amount of the impairment to be recognized. These estimates may raise concerns about the reliability of impairment-loss amounts.

- (a) IFRS 3 addresses goodwill, while IAS 38 addresses intangible assets.**
- (b) IFRS 3 defines goodwill as “an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised.” (Appendix A IFRS 3).**
- (c) No, goodwill is not amortized. However, it is subject to impairment, as discussed in IAS 36**
- (d) Goodwill recognised in a business combination is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised. Goodwill does not generate cash flows independently of other assets or groups of assets, and often contributes to the cash flows of multiple cash-generating units. Goodwill sometimes cannot be allocated on a non-arbitrary basis to individual cash-generating units, but only to groups of cash-generating units. As a result, the lowest level within the entity at which the goodwill is monitored for internal management purposes sometimes comprises a number of cash-generating units to which the goodwill relates, but to which it cannot be allocated. References in paragraphs 83–99 and Appendix C to a cash-generating unit to which goodwill is allocated should be read as references also to a group of cash-generating units to which goodwill is allocated (IAS 36, par. 81).**

Applying the requirements in paragraph 80 results in goodwill being tested for impairment at a level that reflects the way an entity manages its operations and with which the goodwill would naturally be associated. Therefore, the development of additional reporting systems is typically not necessary (par. 82).

PROFESSIONAL RESEARCH (Continued)

A cash-generating unit to which goodwill is allocated for the purpose of impairment testing may not coincide with the level at which goodwill is allocated in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates* for the purpose of measuring foreign currency gains and losses. For example, if an entity is required by IAS 21 to allocate goodwill to relatively low levels for the purpose of measuring foreign currency gains and losses, it is not required to test the goodwill for impairment at that same level unless it also monitors the goodwill at that level for internal management purposes (par. 83).

If the initial allocation of goodwill acquired in a business combination cannot be completed before the end of the annual period in which the business combination is effected, that initial allocation shall be completed before the end of the first annual period beginning after the acquisition date (par. 84).

In accordance with IFRS 3 *Business Combinations*, if the initial accounting for a business combination can be determined only provisionally by the end of the period in which the combination is effected, the acquirer:

- a. accounts for the combination using those provisional values; and
- b. recognises any adjustments to those provisional values as a result of completing the initial accounting within the measurement period, which will not exceed twelve months from the acquisition date.

In such circumstances it might also not be possible to complete the initial allocation of the goodwill recognised in the combination before the end of the annual period in which the combination is effected. When this is the case, the entity discloses the information required by paragraph 133 (par. 85).

PROFESSIONAL SIMULATION

Journal Entries

January 2, 2010

| | | |
|---------------|--------|--------|
| Patents | 60,000 | |
| Cash | | 60,000 |

July 1, 2010

| | | |
|---------------|-------|-------|
| Patents | 9,500 | |
| Cash | | 9,500 |

September 1, 2010

| | | |
|---------------|--------|--------|
| Patents | 28,000 | |
| Cash | | 28,000 |

December 31, 2010

| | | |
|----------------------------------|-------|-------|
| Patent Amortization Expense..... | 7,500 | |
| Patents | | 7,500 |

Computation of patent amortization expense:

| | |
|---------------------|----------------|
| \$60,000 X 12/120 = | \$6,000 |
| \$9,500 X 6/114 = | 500 |
| \$28,000 X 4/112 = | <u>1,000</u> |
| Total | <u>\$7,500</u> |

Measurement

Computation of impairment loss:

| | |
|--------------------------------------|-----------------|
| Cost..... | \$36,000 |
| Less: Accumulated amortization | <u>6,750*</u> |
| Book value | <u>\$29,250</u> |

***\$36,000 X 18/96 = \$6,750**

PROFESSIONAL SIMULATION (Continued)

The book value of \$29,250 is greater than the recoverable amount. Therefore the franchise is impaired. The impairment loss is computed as follows:

| | |
|--------------------------|-----------------|
| Book value | \$29,250 |
| Recoverable amount..... | <u>(13,000)</u> |
| Loss on impairment | <u>\$16,250</u> |

Financial Statements

Intangible assets as of December 31, 2009

| | |
|-------------------------------------|------------------|
| Franchise | <u>\$33,750*</u> |
| *Cost..... | \$36,000 |
| Less: Accumulated amortization..... | <u>2,250**</u> |
| Total..... | <u>\$33,750</u> |

$$**\$36,000 \times 6/96 = \$2,250$$

Note that the net loss and all organization costs are expensed in 2009.

Intangible assets as of December 31, 2010:

| | |
|-------------------------------|--------------------------------------------------|
| Franchise | \$ 13,000 |
| Patents..... | 90,000 (\$60,000 + \$9,500 + \$28,000 – \$7,500) |
| Goodwill | <u>180,000</u> |
| Total intangible assets | <u>\$283,000</u> |

Note that all the costs to develop the secret formula and the research and development costs (except the \$28,000) are expensed as incurred.

CHAPTER 13

Current Liabilities and Contingencies

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|-----------------------------------------------------------------------------------------------------|------------------------|------------------------|--------------------|-----------------|-----------------------|
| 1. Concept of liabilities; definition and classification of current liabilities. | 1, 2, 3, 4, 6, 8 | | 1, 5, 21 | 1, 2 | 1 |
| 2. Accounts and notes payable; dividends payable. | 7, 11 | 1, 2, 3 | 2 | 1, 2 | 1, 2 |
| 3. Short-term obligations expected to be refinanced. | 9, 10 | 4, 5 | 3, 4, 5 | | 3 |
| 4. Deposits and advance payments. | 5, 12 | 6 | | | 2 |
| 5. Compensated absences and bonuses. | 13, 14, 15 | 9, 10 | 6, 7, 21 | | |
| 6. Collections for third parties. | 16 | 7, 8 | 8, 9, 10, 21 | 3, 4 | |
| 7. Provisions and contingent liabilities (General). | 17, 18, 19, 20, 21, 23 | 11, 12 | 16, 19, 20, 21 | 10, 11, 13 | 4, 5, 6 |
| 8. Warranties. | 22, 24 | 14, 15 | 11, 12, 21, 20 | 5, 6, 7, 12, 14 | 6, 7 |
| 9. Premiums and awards offered to customers. | | 16 | 13, 18, 21 | 8, 9, 12, 14 | |
| 10. Self-insurance, litigation, claims, assessments, restructurings, and environmental liabilities. | 25, 26, 27, 28, 29 | 11, 12, 13, 17, 18, 19 | 14, 15, 16, 17, 19 | 2, 10, 11, 13 | 5, 6 |
| 11. Presentation and analysis. | 30, 31, 32 | | 22, 23, 24 | 9 | 3 |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|----------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------|--------------------------------------|
| 1. Describe the nature, type, and valuation of current liabilities. | 1, 2, 3, 4, 6, 7 | 1, 2, 8 | 1, 2 |
| 2. Explain the classification issues of short-term debt expected to be refinanced. | 4, 5 | 3, 4, 5 | |
| 3. Identify types of employee-related liabilities. | 8, 9, 10 | 6, 7, 9, 10 | 3, 4 |
| 4. Explain the accounting for different types of provisions. | 11, 12, 13, 14, 15, 16, 17, 18, 19 | 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 | 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 |
| 5. Identify the criteria used to account for and disclose contingent liabilities and assets. | 11, 12 | 16 | 10, 11, 13 |
| 6. Indicate how to present and analyze liability-related information. | | 21, 22, 23, 24 | 9 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|-------------------------------------------------------|---------------------|----------------|
| E13-1 | Statement of financial position classification. | Simple | 10–15 |
| E13-2 | Accounts and notes payable. | Moderate | 15–20 |
| E13-3 | Refinancing of short-term debt. | Simple | 10–12 |
| E13-4 | Refinancing of short-term debt. | Simple | 10–15 |
| E13-5 | Debt classifications | Simple | 15–20 |
| E13-6 | Compensated absences. | Moderate | 25–30 |
| E13-7 | Compensated absences. | Moderate | 25–30 |
| E13-8 | Adjusting entry for sales tax. | Simple | 5–7 |
| E13-9 | Payroll tax entries. | Simple | 10–15 |
| E13-10 | Payroll tax entries. | Simple | 15–20 |
| E13-11 | Warranties. | Simple | 10–15 |
| E13-12 | Warranties. | Moderate | 15–20 |
| E13-13 | Premium entries. | Simple | 15–20 |
| E13-14 | Restructuring issues. | Simple | 15–20 |
| E13-15 | Restructuring. | Simple | 15–20 |
| E13-16 | Provision's and contingencies. | Moderate | 20–30 |
| E13-17 | Environmental liability. | Moderate | 25–30 |
| E13-18 | Premiums. | Moderate | 20–30 |
| E13-19 | Provisions. | Moderate | 20–30 |
| E13-20 | Provisions. | Moderate | 20–30 |
| E13-21 | Financial statement impact of liability transactions. | Moderate | 20–25 |
| E13-22 | Ratio computations and discussion. | Simple | 10–15 |
| E13-23 | Ratio computations and analysis. | Simple | 20–25 |
| E13-25 | Ratio computations and effect of transactions. | Moderate | 15–25 |
| P13-1 | Current liability entries and adjustments. | Simple | 25–30 |
| P13-2 | Liability entries and adjustments. | Simple | 25–35 |
| P13-3 | Payroll tax entries. | Moderate | 20–30 |
| P13-4 | Payroll tax entries. | Simple | 20–25 |
| P13-5 | Warranties, accrual, and cash basis. | Simple | 15–20 |
| P13-6 | Extended warranties. | Simple | 10–20 |
| P13-7 | Warranties, accrual, and cash basis. | Moderate | 25–35 |
| P13-8 | Premium entries. | Moderate | 15–25 |
| P13-9 | Premium entries and financial statement presentation. | Moderate | 30–45 |
| P13-10 | Litigation claim: entries and essay. | Simple | 25–30 |

Assignment Characteristics Table (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|--------------------------------------------|---------------------|----------------|
| P13-11 | Contingencies: entries and essays. | Moderate | 35–45 |
| P13-12 | Warranties and premiums. | Moderate | 20–30 |
| P13-13 | Liability errors. | Moderate | 25–35 |
| P13-14 | Warranty and coupon computation. | Moderate | 20–25 |
| CA13-1 | Nature of liabilities. | Moderate | 20–25 |
| CA13-2 | Current versus non-current classification. | Moderate | 15–20 |
| CA13-3 | Refinancing of short-term debt. | Moderate | 30–40 |
| CA13-4 | Contingencies. | Simple | 15–20 |
| CA13-5 | Possible environmental liability. | Simple | 15–20 |
| CA13-6 | Warranties and litigation provisions. | Simple | 15–20 |
| CA13-7 | Warranties. | Moderate | 20–25 |

ANSWERS TO QUESTIONS

1. Current liabilities are obligations reasonably expected to be settled within its normal operating cycle or within twelve months after the reporting date. Non-current liabilities consist of all liabilities not properly classified as current liabilities.
2. You might explain to your friend that the IASB defines a liability as part of its conceptual framework. The formal definition of liabilities is a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits. A liability has three essential characteristics: (1) it is a present obligation; (2) it arises from past events and (3) it results in an outflow of resources.
3. As a lender of money, the banker is interested in the priority his/her claim has on the company's assets relative to other claims. Close examination of the liability section and the related footnotes discloses amounts, maturity dates, collateral, subordinations, and restrictions of existing contractual obligations, all of which are important to potential creditors. The assets and earning power are likewise important to a banker considering a loan.
4. By definition, current liabilities are obligations reasonably expected to be settled within its normal operating cycle or within twelve months after the reporting date.
5. Unearned revenue is a liability that arises from current sales but for which some future services or products are owed to customers in the future. At the time of a sale, customers pay not only for the delivered product, but they also pay for future products or services (e.g., another plane trip, hotel room, or software upgrade). In this case, the company recognizes revenue from the current product and part of the sale proceeds is recorded as a liability (unearned revenue) for the value of future products or services that are "owed" to customers. Market analysts indicate that an increase in the unearned revenue liability, rather than raising a red flag, often provides a positive signal about sales and profitability. When the sales are growing, its unearned revenue account should grow. Thus, an **increase** in a liability may be good news about company performance. In contrast, when unearned revenues decline, the company owes less future amounts but this also means that sales of new products may have slowed.
6. Payables and receivables generally involve an interest element. Recognition of the interest element (the cost of money as a factor of time and risk) results in valuing future payments at their current value. The present value of a liability represents the debt exclusive of the interest factor.
7. A zero-interest-bearing note is initially recorded at the amount of cash received (or the present value of the note). The present value of the note equals the face value of the note at maturity less the interest charged by the lender for the term of the note. As time passes, interest is accrued as an increase to the note payable.
8. Liabilities that are due on demand (callable by the creditor) should be classified as a current liability. Classification of the debt as current is required because it is a reasonable expectation that existing working capital will be used to satisfy the debt. Liabilities often become callable by the creditor when there is a violation of the debt agreement. Only if the creditor agrees before the reporting date to provide a grace period that extends at least twelve months past the reporting date can the debt be classified as non-current.

Questions Chapter 13 (Continued)

9. A company should exclude a short-term obligation from current liabilities only if (1) it intends to refinance the obligation on a long-term basis, and (2) it has an unconditional right to defer settlement of the liability for at least twelve months after the reporting date.
10. The ability to defer settlement of short-term debt may be demonstrated by entering into a financing agreement that clearly permits the company to refinance the debt on a long-term basis on terms that are readily determinable before the next reporting date.
11. A cash dividend formally authorized by the board of directors would be recorded by a debit to Retained Earnings and a credit to Dividends Payable. The Dividends Payable account should be classified as a current liability.

An accumulated but undeclared dividend on cumulative preference shares is not recorded in the accounts as a liability until declared by the board, but such arrearages should be disclosed either by a footnote to the statement of financial position or parenthetically in the share capital section.

A share dividend distributable, formally authorized and declared by the board, does not appear as a liability because a share dividend does not require future outlays of assets or services and is revocable by the board prior to issuance. Even so, an undistributed share dividend is generally reported in the equity section since it represents retained earnings in the process of transfer to share capital.

12. Unearned revenue arises when a company receives cash or other assets as payment from a customer before conveying (or even producing) the goods or performing the services which it has committed to the customer.

Unearned revenue is assumed to represent the obligation to the customer to refund the assets received in the case of nonperformance or to perform according to the agreement and thus earn the unrestricted right to the assets received. While there may be an element of unrealized profit included among the liabilities when unearned revenues are classified as such, it is ignored on the grounds that the amount of unrealized profit is uncertain and usually not material relative to the total obligation.

Unearned revenues arise from the following activities:

- (1) The sale by a transportation company of tickets or tokens that may be exchanged or used to pay for future fares.
 - (2) The sale by a restaurant of meal tickets that may be exchanged or used to pay for future meals.
 - (3) The sale of gift certificates by a retail store.
 - (4) The sale of season tickets to sports or entertainment events.
 - (5) The sale of subscriptions to magazines.
13. Compensated absences are employee absences such as vacation, illness, maternity, paternity, and jury leaves for which it is expected that employees will be paid.

Questions Chapter 13 (Continued)

14. A liability should be accrued for the cost of compensated absences if the employer has an obligation to make payment to an employee even after terminating his or her employment (vested rights) or if the employees can carry forward the rights to future periods if not used in the period in which earned (accumulated rights).
15. Vested rights with respect to compensated absences exist if the employer has an obligation to make payment to an employee even after terminating his or her employment. Accumulated rights are those that employees can carry forward to future periods if not used in the period in which earned. Non-accumulated rights do not carry forward, but lapse if not used within the period earned. Vested and accumulated rights are accrued by the employer as these are earned by the employee. Non-accumulated rights are recognized only when the absence commences.
16. Employers generally hold back from each employee's wages amounts to cover income taxes (withholding), the employee's share of social security taxes, and other items such as union dues or health insurance. In addition, the employer must set aside amounts to cover the employer's share of social security taxes. These latter amounts are recorded as payroll expenses and will lower Battle's income. In addition, the amount set aside (both the employee and the employer share) will be reported as current liabilities until they are remitted to the appropriate third party.
17. A provision is defined as a liability of uncertain timing or amount and is sometimes referred to as an estimated liability. Common types of provisions are obligations related to litigation, warranties, product guarantees, business restructurings, and environmental damage.
18. A provision should be recorded and a charge accrued to expense only if:
 - (a) the company has a present obligation (constructive or legal) as a result of a past event,
 - (b) it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and
 - (c) a reliable estimate can be made of the amount of the obligation.
19. A current liability such as accounts payable is susceptible to precise measurement because the date of payment, the payee, and the amount of cash needed to discharge the obligation are reasonably certain. There is nothing uncertain about (1) the fact that the obligation has been incurred and (2) the amount of the obligation.

A provision is a liability of uncertain timing or amount and has greater uncertainty about the timing or amount of the future expenditure required to settle the obligation.

20. In determining whether a provision should be recognized, in addition to assessing whether a past event has occurred and a reliable estimate can be developed, a company must also assess whether the outflow of resources is probable. The term probable is defined as "more likely than not" to occur. This phrase is interpreted to mean the probability of occurrence is greater than 50 percent. If the probability is 50 percent or less, the provision is not recognized.

With respect to contingencies, Illustrations 13-12 and 13-14 summarize the general guidelines for the accounting and reporting of contingent liabilities and assets. As indicated there, virtually certain corresponds to a high probability of occurrence (at least 90%). Thus, a provision would be recorded under these circumstances. Contingent assets are not recognized on the statement of financial position unless realization of the contingent asset is virtually certain—that is, it is no longer considered a contingent asset and is recognized as an asset. Again, virtually certain is generally interpreted to be at least a probability of 90 percent or more. Disclosure related to a contingent asset is required when probable (more likely than not). No disclosure is required when the probability of inflow of economic benefits is less than 50%.

Questions Chapter 13 (Continued)

21. A legal obligation generally results from a contract or legislation. A constructive obligation is an obligation derived from the company's actions where (a) by an established pattern of past practice, published policies, or a sufficiently specific current situation, the company has indicated to other parties that it will accept certain responsibilities; and (b) as a result, the company has created a valid expectation on the part of those other parties that it will discharge those responsibilities.
22. Under the **cash-basis method**, warranty costs are charged to expense in the period in which the seller or manufacturer performs in compliance with the warranty. No liability is recorded for future costs arising from warranties, and the period of sale is not necessarily charged with the costs of making good on outstanding warranties. Under the **accrual method**, a provision for warranty costs is made at the time of sale or as the productive activity takes place; the accrual method may be applied two different ways: expense warranty versus sales warranty method. But under either method, the attempt is to recognize warranty expense in the year of sale.
23. Under IFRS, companies may not record provisions for future operating losses. Such provisions do not meet the definition of a liability, since the amount is not the result of a past transaction (the losses have not yet occurred). Therefore the liability has not been incurred. Furthermore, operating losses reflect general business risks for which a reasonable estimate of the loss could not be determined. Note that use of provisions in this way is one of the examples of earnings management discussed in Chapter 4. By reducing income in good years through the use of contingencies, companies can smooth out their income from year-to-year.
24. The expense warranty approach and the sales warranty approach are both variations of the accrual method of accounting for warranty costs. The expense warranty approach charges the estimated future warranty costs to operating expense in the year of sale or manufacture. The sales warranty approach defers a certain percentage of the original sales price until some future time when actual costs are incurred or the warranty expires.
25. Onerous contracts are ones in which the unavoidable costs of meeting the obligations exceed the economic benefits expected to be received. Examples include a loss to be recognized on an unfavorable non-cancellable purchase commitment for inventory, and a lease cancellation fee for a facility that is no longer being used.
26. A restructuring is a program that is planned and controlled by management and materially changes either (1) the scope of a business undertaken by the company; or (2) the manner in which the business is conducted. Costs that should not be included in a restructuring provision include investment in new systems, lower utilization of facilities, costs of training or relocating staff, costs of moving assets or operations, administration or marketing costs, allocation of corporate overhead, and expected future operating costs or expected operating losses unless they relate to an onerous contract.
27. An environmental provision must be recognized when a company has an existing legal obligation associated with the retirement of a long-lived asset and when the amount can be reasonably estimated.
28. The absence of insurance does not mean that a liability has been incurred at the date of the financial statements. Until the time that an event occurs there can be no diminution in the value of property or incurrence of a liability. If an event has occurred which exposes an enterprise to risks of injury to others and/or damage to the property of others, then a contingent liability exists. Expected future injury, damage, or loss resulting from lack of insurance need not be recorded or disclosed if no contingent liability exists. And, a contingent liability exists only if an uninsurable event which causes probable loss has occurred. Lack of insurance is not in itself a basis for recording a liability or loss.

Questions Chapter 13 (Continued)

29. In determining whether or not to record a liability for pending litigation, the following factors must be considered:

- (a) The time period in which the underlying cause for action occurred.
- (b) The probability of an unfavorable outcome.
- (c) The ability to make a reliable estimate of the amount of loss.

Before recording a liability for threatened litigation, the company must determine:

- (a) The degree of probability that a suit may be filed or a claim or assessment may be asserted, and
- (b) The probability of an unfavorable outcome.

If both are probable, the loss reliably estimable, and the cause for action dated on or before the date of the financial statements, the liability must be accrued.

30. There are several defensible recommendations for listing current liabilities: (1) in order of maturity, (2) in descending order of amount, (3) in order of liquidation preference. The authors' recent review of published financial statements disclosed that a significant majority of the published financial statements examined listed "notes payable" first, regardless of relative amount, followed most often by "accounts payable," and ending the current liability section with "current portion of long-term debt."

31. The acid-test ratio and the current ratio are both measures of the short-term debt-paying ability of the company. The acid-test ratio excludes inventories and prepaid expenses on the basis that these assets are difficult to liquidate in an emergency. The current ratio and the acid-test ratio are similar in that both numerators include cash, short-term investments, and net receivables, and both denominators include current liabilities.

- 32.**
- (a) A liability for goods purchased on credit should be recorded when title passes to the purchaser. If the terms of purchase are f.o.b. destination, title passes when the goods purchased arrive; if f.o.b. shipping point, title passes when shipment is made by the vendor.
 - (b) A provision for an onerous contract is recorded when it is determined that the corporation is a party to a contract that is considered onerous and as a result has a present obligation, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate of the obligation can be made.
 - (c) A special bonus to employees should be recorded when approved by the board of directors or person having authority to approve, if the bonus is for a period of time and that period has ended at the date of approval.
 - (d) A provision for warranties should be recorded when it is probable that customers will make warranty claims and the corporation can reasonably estimate the costs involved.
 - (e) Profit-sharing payments are considered additional wages and the liability should be recorded in the year the profit-sharing relates to.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 13-1

| | | | |
|---------|--------------------------------------|--------|--------|
| July 1 | Purchases..... | 60,000 | |
| | Accounts Payable | | 60,000 |
| | Freight-in | 1,200 | |
| | Cash..... | | 1,200 |
| July 3 | Accounts Payable..... | 6,000 | |
| | Purchase Returns and Allowances..... | | 6,000 |
| July 10 | Accounts Payable..... | 54,000 | |
| | Cash (\$54,000 X 98%) | | 52,920 |
| | Purchase Discounts | | 1,080 |

BRIEF EXERCISE 13-2

| | | | |
|----------|--------------------------------------------------|--------|--------|
| 11/1/10 | Cash..... | 40,000 | |
| | Notes Payable | | 40,000 |
| 12/31/10 | Interest Expense | 600 | |
| | Interest Payable (\$40,000 X 9% X 2/12)..... | | 600 |
| 2/1/11 | Notes Payable..... | 40,000 | |
| | Interest Payable | 600 | |
| | Interest Expense..... | 300 | |
| | Cash [(\$40,000 X 9% X 3/12) + \$40,000]..... | | 40,900 |

BRIEF EXERCISE 13-3

| | | | |
|----------|----------------------------------------|------------|------------|
| 11/1/10 | Cash..... | 60,000,000 | |
| | Notes Payable..... | | 60,000,000 |
| 12/31/10 | Interest Expense..... | 900,000 | |
| | Notes Payable (¥1,350,000 X 2/3) | | 900,000 |

BRIEF EXERCISE 13-3 (Continued)

| | | | |
|--------|------------------------|------------|------------|
| 2/1/11 | Interest Expense | 450,000 | |
| | Notes Payable | | 450,000 |
| | Notes Payable | 61,350,000 | |
| | Cash | | 61,350,000 |

BRIEF EXERCISE 13-4

- (a) While Burr has the intent to refinance, Burr did not have the unconditional right to defer payment as of December 31. The entire amount would be reported as current liability.
- (b) While Burr has the intent to refinance, Burr did not have the unconditional right to defer payment as of December 31. The entire amount would be reported as current liability.

BRIEF EXERCISE 13-5

The debt becomes payable on demand because of the breach of a covenant and therefore should be reported as a current liability. The agreement with the lender to provide a waiver of the breach is after the financial reporting date and does not affect the classification of the debt obligation as of December 31.

BRIEF EXERCISE 13-6

| | | | |
|----------|-------------------------------------------------------------|---------|---------|
| 8/1/10 | Cash | 216,000 | |
| | Unearned Subscription Revenue (12,000 X \$18) | | 216,000 |
| 12/31/10 | Unearned Subscription Revenue | 90,000 | |
| | Subscription Revenue (\$216,000 X 5/12 = \$90,000) | | 90,000 |

BRIEF EXERCISE 13-7

| | | | |
|-----|-------------------------------------------------|--------|--------|
| (a) | Accounts Receivable | 31,800 | |
| | Sales | | 30,000 |
| | Sales Taxes Payable | | |
| | ($\$30,000 \times 6\% = \$1,800$) | | 1,800 |
| (b) | Cash | 20,670 | |
| | Sales ($\$20,670 \div 1.06 = \$19,500$) | | 19,500 |
| | Sales Taxes Payable | | 1,170 |

BRIEF EXERCISE 13-8

| | | |
|-------------------------------------|--------|--------|
| Wages Expense | 24,000 | |
| Social Security Taxes Payable | | 1,920 |
| Withholding Taxes Payable | | 2,990 |
| Insurance Premiums Payable | | 250 |
| Cash | | 18,840 |

BRIEF EXERCISE 13-9

| | | |
|-------------------------------------------------------------|--------|--------|
| Wages Expense | 42,000 | |
| Vacation Wages Payable ($30 \times 2 \times \$700$) | | 42,000 |

BRIEF EXERCISE 13-10

| | | | |
|----------|---------------------|---------|---------|
| 12/31/10 | Bonus Expense | 350,000 | |
| | Bonus Payable | | 350,000 |
| 2/15/11 | Bonus Payable | 350,000 | |
| | Cash | | 350,000 |

BRIEF EXERCISE 13-11

- (a) Lawsuit Loss 900,000
 Lawsuit Liability 900,000
- (b) No entry is necessary. The loss is not accrued because it is not probable that a liability has been incurred at 12/31/10.

BRIEF EXERCISE 13-12

Buchanan should record a litigation accrual on the patent case, since the amount is both reliably estimable and probable. This entry will reduce income by \$300,000 and Buchanan will report a litigation liability of \$300,000. The \$100,000 self-insurance allowance has no impact on income or liabilities.

BRIEF EXERCISE 13-13

Oil Platform 450,000
 Environmental Liability 450,000

BRIEF EXERCISE 13-14

2010 Warranty Expense 70,000
 Cash, Inventory, etc..... 70,000

12/31/10 Warranty Expense 400,000
 Warranty Liability 400,000

BRIEF EXERCISE 13-15

| | | | |
|-----|--------------------------------------|-----------|-----------|
| (a) | Cash | 1,980,000 | |
| | Unearned Warranty Revenue | | |
| | (20,000 X \$99) | | 1,980,000 |
| (b) | Warranty Expense | 180,000 | |
| | Cash, Inventory, etc. | | 180,000 |
| (c) | Unearned Warranty Revenue | 330,000 | |
| | Warranty Revenue | | |
| | (\$1,980,000 X \$180/\$1,080*) | | 330,000 |
| | *\$180,000 + \$900,000 | | |

BRIEF EXERCISE 13-16

| | | |
|-----------------------------------------------------------|------------------|------------------|
| Premium Expense | 96,000 | |
| Premiums Liability | | 96,000* |
| *UPC codes expected to be sent in (30% X 1,200,000) | 360,000 | |
| UPC codes already redeemed | <u>(120,000)</u> | |
| Estimated future redemptions | <u>240,000</u> | |
| Cost of estimated claims outstanding | | |
| (240,000 ÷ 3) X (\$1.10 + \$0.60 – \$0.50) | | <u>\$ 96,000</u> |

BRIEF EXERCISE 13-17

Cargo Company's lawsuit claim represents a contingent asset because the odds of winning the case are 75% (probable, but not virtually certain). Contingent assets are not recognized on the statement of financial position.

BRIEF EXERCISE 13-18

Costs that should not be included in a restructuring provision include marketing costs to rebrand the company image and expected future losses for keeping the plant open for another year.

BRIEF EXERCISE 13-19

| | | |
|---------------------------------------|------------------|------------------|
| Loss on Lease Contract..... | 1,450,000 | |
| Lease Contract Liability | | 1,450,000 |

SOLUTIONS TO EXERCISES

EXERCISE 13-1 (10–15 minutes)

- (a) Current liability.
- (b) Current liability.
- (c) Current liability or non-current liability depending on term of warranty.
- (d) Current liability.
- (e) Footnote disclosure (assume possible not probable).
- (f) Current liability.
- (g) Current or non-current liability depending upon the time involved.
- (h) Current liability.
- (i) Current liability.
- (j) Current liability.
- (k) Current liability.
- (l) Current liability.
- (m) Current liability.
- (n) Current liability.
- (o) Footnote disclosure.
- (p) Separate presentation in either current or non-current liability section.

EXERCISE 13-2 (15–20 minutes)

| | | | | |
|-----|---------|--------------------------------------|--------|--------|
| (a) | Sept. 1 | Purchases..... | 50,000 | |
| | | Accounts Payable | | 50,000 |
| | Oct. 1 | Accounts Payable | 50,000 | |
| | | Notes Payable..... | | 50,000 |
| | Oct. 1 | Cash..... | 75,000 | |
| | | Notes Payable..... | | 75,000 |
| (b) | Dec. 31 | Interest Expense..... | 1,000 | |
| | | Interest Payable | | |
| | | (\$50,000 X 8% X 3/12)..... | | 1,000 |
| | Dec. 31 | Interest Expense..... | 1,500 | |
| | | Notes Payable (\$6,000 X 3/12) | | 1,500 |

EXERCISE 13-2 (Continued)

| | | |
|--------|----------------------------------------|-----------------|
| (c) 1. | Note payable | \$50,000 |
| | Interest payable | <u>1,000</u> |
| | | <u>\$51,000</u> |
| 2. | Note payable (\$75,000 + \$1,500)..... | <u>\$76,500</u> |

EXERCISE 13-3 (10–12 minutes)

ALEXANDER COMPANY
Partial Statement of Financial Position
December 31, 2010

Current liabilities:

| | |
|-----------------------------|------------|
| Notes payable (Note 1)..... | €1,200,000 |
|-----------------------------|------------|

NOTE 1:

Short-term debt refinanced. As of December 31, 2010, the company had notes payable totaling €1,200,000 due on February 2, 2011. These notes were refinanced on their due date to the extent of €900,000 received from the issuance of ordinary shares on January 21, 2011. The balance of €300,000 was liquidated using current assets.

EXERCISE 13-4 (10–15 minutes)

Short-term obligation A. While the maturity of the obligation was extended to March 1, 2013, the agreement was not reached with the lender until February 1, 2011. Since the agreement was not in place as of the reporting date (December 31, 2010), the obligation should be reported as a current liability.

Short-term obligation B. The maturity of the obligation was extended to February 1, 2012 and the agreement with the lender was signed on December 18, 2010. Since the agreement was in place as of the reporting date (December 31, 2010), the obligation is reported as a non-current liability.

EXERCISE 13-5 (15–20 minutes)

- (1) Debt that is callable on demand by the lender at any time should be classified as a current liability. The callable on demand feature overrides the stated maturity of December 31, 2013.**
- (2) When there is a breach of a debt covenant, the debt is normally classified as a current liability. However, if the company is able to obtain a period of grace from the lender prior to the reporting date as Mckee did (the agreement was reached on December 8, 2010), the debt should be classified as non-current.**
- (3) Mckee should classify \$100,000 of the obligation as a current maturity of long-term debt (current liability) and the \$300,000 balance as a non-current liability.**
- (4) While the maturity of the obligation was extended to February 15, 2013, the agreement was not reached with the lender until January 15, 2011. Since the agreement was not in place as of the reporting date (December 31, 2010), the obligation should be reported as a current liability.**

EXERCISE 13-6 (25–30 minutes)

(a)

2010

To accrue expense and liability for compensated absences

| | | |
|------------------------------|--------|-----------|
| Wages Expense | 13,824 | |
| Vacation Wages Payable | | 8,640 (1) |
| Sick Pay Wages Payable..... | | 5,184 (2) |

To record payment for compensated time when used by employees

| | | |
|------------------------------|-----------|-------|
| Sick Pay Wages Payable | 3,456 (3) | |
| Cash..... | | 3,456 |

2011

To accrue expense and liability for compensated absences

| | | |
|------------------------------|--------|-----------|
| Wages Expense | 14,976 | |
| Vacation Wages Payable | | 9,360 (4) |
| Sick Pay Wages Payable..... | | 5,616 (5) |

To record payment for compensated time when used by employers

| | | |
|------------------------------|-----------|------------|
| Wages Expense | 792 | |
| Vacation Wages Payable | 7,776 (6) | |
| Sick Pay Wages Payable | 4,536 (7) | |
| Cash..... | | 13,104 (8) |

EXERCISE 13-6 (Continued)

| | | |
|-----|-------------------------------------------------------|--------------------------|
| (1) | 9 employees X \$12.00/hr. X 8 hrs./day X 10 days = | \$8,640 |
| (2) | 9 employees X \$12.00/hr. X 8 hrs./day X 6 days = | \$5,184 |
| (3) | 9 employees X \$12.00/hr. X 8 hrs./day X 4 days = | \$3,456 |
| (4) | 9 employees X \$13.00/hr. X 8 hrs./day X 10 days = | \$9,360 |
| (5) | 9 employees X \$13.00/hr. X 8 hrs./day X 6 days = | \$5,616 |
| (6) | 9 employees X \$12.00/hr. X 8 hrs./day X 9 days = | \$7,776 |
| (7) | 9 employees X \$12.00/hr. X 8 hrs./day X (6–4) days = | \$1,728 |
| | 9 employees X \$13.00/hr. X 8 hrs./day X (5–2) days = | <u>+2,808</u> = \$4,536 |
| (8) | 9 employees X \$13.00/hr. X 8 hrs./day X 9 days = | \$8,424 |
| | 9 employees X \$13.00/hr. X 8 hrs./day X 5 days = | <u>+4,680</u> = \$13,104 |

NOTE: Vacation days and sick days are paid at the employee's current wage. Also, if employees earn vacation pay at different pay rates, a consistent pattern of recognition (e.g., first-in, first-out) could be employed to recognize liabilities that have been paid.

(b) Accrued liability at year-end:

| | 2010 | | 2011 | |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|
| | Vacation Wages Payable | Sick Pay Wages Payable | Vacation Wages Payable | Sick Pay Wages Payable |
| Jan. 1 balance | \$ 0 | \$ 0 | \$ 8,640 | \$1,728 |
| + accrued | 8,640 | 5,184 | 9,360 | 5,616 |
| – paid | <u>(0)</u> | <u>(3,456)</u> | <u>(7,776)</u> | <u>(4,536)</u> |
| Dec. 31 balance | <u>\$8,640(1)</u> | <u>\$1,728(2)</u> | <u>\$10,224(3)</u> | <u>\$2,808(4)</u> |

| | | |
|-----|---------------------------------------------------------------|-----------------|
| (1) | 9 employees X \$12.00/hr. X 8 hrs./day X 10 days = | <u>\$ 8,640</u> |
| (2) | 9 employees X \$12.00/hr. X 8 hrs./day X (6–4) days = | <u>\$ 1,728</u> |
| (3) | 9 employees X \$12.00/hr. X 8 hrs./day X (10–9) days = | \$ 864 |
| | 9 employees X \$13.00/hr. X 8 hrs./day X 10 days = | <u>+9,360</u> |
| | | <u>\$10,224</u> |
| (4) | 9 employees X \$13.00/hr. X 8 hrs./day X (6 + 6 – 4 – 5) days | <u>\$ 2,808</u> |

EXERCISE 13-7 (25–30 minutes)

(a)

2010

To accrue the expense and liability for vacations

| | | |
|-----------------------------|-----------|-------|
| Wages Expense | 9,288 (1) | |
| Vacation Wages Payable..... | | 9,288 |

To record sick leave paid

| | | |
|---------------------|-----------|-------|
| Wages Expense | 3,456 (2) | |
| Cash | | 3,456 |

To record vacation time paid

No entry, since no vacation days were used.

2011

To accrue the expense and liability for vacations

| | | |
|-----------------------------|-----------|-------|
| Wages Expense | 9,864 (3) | |
| Vacation Wages Payable..... | | 9,864 |

To record sick leave paid

| | | |
|---------------------|-----------|-------|
| Wages Expense | 4,680 (4) | |
| Cash | | 4,680 |

To record vacation time paid

| | | |
|------------------------------|-----------|-----------|
| Wages Expense | 65 | |
| Vacation Wages Payable | 8,359 (5) | |
| Cash | | 8,424 (6) |

(1) 9 employees X \$12.90/hr. X 8 hrs./day X 10 days = \$9,288

(2) 9 employees X \$12.00/hr. X 8 hrs./day X 4 days = \$3,456

(3) 9 employees X \$13.70/hr. X 8 hrs./day X 10 days = \$9,864

(4) 9 employees X \$13.00/hr. X 8 hrs./day X 5 days = \$4,680

(5) 9 employees X \$12.90/hr. X 8 hrs./day X 9 days = \$8,359

(6) 9 employees X \$13.00/hr. X 8 hrs./day X 9 days = \$8,424

EXERCISE 13-7 (Continued)

(b) Accrued liability at year-end:

| | <u>2010</u> | <u>2011</u> |
|-----------------|-------------------|--------------------|
| Jan. 1 balance | \$ 0 | \$ 9,288 |
| + accrued | 9,288 | 9,864 |
| – paid | <u>(0)</u> | <u>(8,359)</u> |
| Dec. 31 balance | <u>\$9,288(1)</u> | <u>\$10,793(2)</u> |

| | |
|-----------------------------------------------------------|-----------------|
| (1) 9 employees X \$12.90/hr. X 8 hrs./day X 10 days..... | <u>\$ 9,288</u> |
| (2) 9 employees X \$12.90/hr. X 8 hrs./day X 1 day | \$ 929 |
| 9 employees X \$13.70/hr. X 8 hrs./day X 10 days..... | <u>9,864</u> |
| | <u>\$10,793</u> |

EXERCISE 13-8 (5–7 minutes)

| June 30 | |
|-------------------------------------------------|------------------|
| Sales | 23,700 |
| Sales Tax Payable..... | 23,700 |
| Computation: | |
| Sales plus sales tax (\$265,000 | |
| + \$153,700)..... | \$418,700 |
| Sales exclusive of tax (\$418,700 ÷ 1.06) | <u>(395,000)</u> |
| Sales tax | <u>\$ 23,700</u> |

EXERCISE 13-9 (10–15 minutes)

| | |
|--------------------------------------|---------|
| Wages and Salaries Expense | 340,000 |
| Withholding Taxes Payable..... | 80,000 |
| Social Security Taxes Payable* | 27,200 |
| Union Dues Payable..... | 9,000 |
| Cash | 223,800 |

*[340,000 X 8% = \$27,200]

EXERCISE 13-9 (Continued)

| | | |
|------------------------------------|--------|--------|
| Payroll Tax Expense | 27,200 | |
| Social Security Taxes Payable..... | | 27,200 |
| (See previous computation.) | | |

EXERCISE 13-10 (15–20 minutes)

(a) Computation of taxes

| | | |
|-----------------------------|------------------|------------------|
| | <u>Factory</u> | |
| Wages | \$140,000 | |
| Social security taxes | <u>11,200</u> | (8% X \$140,000) |
| Total Cost | <u>\$151,200</u> | |

| | | |
|-----------------------------|-----------------|---------------|
| | <u>Sales</u> | |
| Wages | \$32,000 | |
| Social security taxes | <u>2,560</u> | (8% X 32,000) |
| Total Cost | <u>\$34,560</u> | |

| | | |
|-----------------------------|-----------------------|-----------------|
| | <u>Administrative</u> | |
| Wages | \$36,000 | |
| Social security taxes | <u>2,880</u> | (8% X \$36,000) |
| Total Cost | <u>\$38,880</u> | |

| | <u>Schedule</u> | | | |
|-----------------|------------------|------------------|-----------------|-----------------------|
| | <u>Total</u> | <u>Factory</u> | <u>Sales</u> | <u>Administrative</u> |
| Wages | \$208,000 | \$140,000 | \$32,000 | \$36,000 |
| Social Security | <u>16,640</u> | <u>11,200</u> | <u>2,560</u> | <u>2,880</u> |
| Total Cost | <u>\$224,640</u> | <u>\$151,200</u> | <u>\$34,560</u> | <u>\$38,880</u> |

EXERCISE 13-10 (Continued)

(b)

Factory Payroll:

| | | |
|------------------------------------|---------|---------|
| Wages and Salaries Expense..... | 140,000 | |
| Withholding Taxes Payable | | 16,000 |
| Social Security Taxes Payable..... | | 11,200 |
| Cash..... | | 112,800 |
| Payroll Tax Expense | 11,200 | |
| Social Security Taxes Payable..... | | 11,200 |

Sales Payroll:

| | | |
|------------------------------------|--------|--------|
| Wages and Salaries Expense..... | 32,000 | |
| Withholding Taxes Payable | | 7,000 |
| Social Security Taxes Payable..... | | 2,560 |
| Cash..... | | 22,440 |
| Payroll Tax Expense | 2,560 | |
| Social Security Taxes Payable..... | | 2,560 |

Administrative Payroll:

| | | |
|------------------------------------|--------|--------|
| Wages and Salaries Expense..... | 36,000 | |
| Withholding Taxes Payable | | 6,000 |
| Taxes Payable | | 2,880 |
| Cash..... | | 27,120 |
| Payroll Tax Expense | 2,880 | |
| Social Security Taxes Payable..... | | 2,880 |

EXERCISE 13-11 (10–15 minutes)

| | | | |
|-----|---------------------------------------------|---------|---------|
| (a) | Cash (150 X £4,000) | 600,000 | |
| | Sales..... | | 600,000 |
| | Warranty Expense | 17,000 | |
| | Cash, Inventory, Accrued Payroll..... | | 17,000 |
| | Warranty Expense (£45,000* – £17,000) | 28,000 | |
| | Warranty Liability..... | | 28,000 |
| | *(150 X £300) | | |
| (b) | Cash | 600,000 | |
| | Sales..... | | 600,000 |
| | Warranty Expense | 17,000 | |
| | Cash, Inventory, Accrued Payroll..... | | 17,000 |

EXERCISE 13-12 (15–20 minutes)

| | | | |
|-----|-----------------------------------------|-----------|-----------|
| (a) | Cash | 3,000,000 | |
| | Sales (500 X \$6,000) | | 3,000,000 |
| | Warranty Expense | 30,000 | |
| | Cash, Inventory, Accrued Payroll..... | | 30,000 |
| | Warranty Expense | 90,000 | |
| | Warranty Liability | | |
| | (\$120,000 – \$30,000) | | 90,000 |
| (b) | Cash | 3,000,000 | |
| | Sales..... | | 2,840,000 |
| | Unearned Warranty Revenue..... | | 160,000 |
| | Warranty Expense | 30,000 | |
| | Cash, Inventory, Accrued Payroll..... | | 30,000 |
| | Unearned Warranty Revenue..... | 40,000 | |
| | Warranty Revenue | | |
| | [\$160,000 X (\$30,000/\$120,000)]..... | | 40,000 |

EXERCISE 13-13 (15–20 minutes)

| | | |
|----------------------------------------------------|---------|---------|
| Inventory of Premiums (8,800 X €.90) | 7,920 | |
| Cash | | 7,920 |
| Cash (120,000 X €3.30) | 396,000 | |
| Sales | | 396,000 |
| Premium Expense | 3,960 | |
| Inventory of Premiums [(44,000 ÷ 10) X €.90] | | 3,960 |
| Premium Expense | 2,520* | |
| Liability for Premiums | | 2,520 |

*[(120,000 X 60%) – 44,000] ÷ 10 X €.90 = €2,520

EXERCISE 13-14 (15–20 minutes)

- (1) Lease termination penalties are included. The ¥400,000 penalty to break the lease should therefore be included.
- (2) Allocations of overhead are excluded.
- (3) Costs of training staff are excluded.
- (4) Use of an outplacement firm to assist with the terminations are employee termination costs directly related to the restructuring and should be included.
- (5) Termination costs directly related to the restructuring are included.
- (6) Costs of moving assets to other divisions are excluded.

EXERCISE 13-15 (15–20 minutes)

- (a) A restructuring is a program that is planned and controlled by management and materially changes either (1) the scope of a business undertaken by the company; or (2) the manner in which that business is conducted.

Examples include sale of a line of business, eliminating a layer of management, and closure of operation in a country.

- (b) The two provisions are (1) management must have detailed formal plan for the restructuring; and (2) raise a valid expectation to those affected by implementation or announcement of the plan.
- (c) Dolman may include the following costs as part of the restructuring provision: employee termination costs related to closing the division; and onerous contract provisions related to the closing.

EXERCISE 13-16 (20–30 minutes)

- (1) The IASB requires that, when some amount within the range of expected loss appears at the time to be a better estimate than any other amount within the range, that amount is accrued. When no amount within the range is a better estimate than any other amount, the expected value (midpoint of the range) should be used. In this case, therefore, Maverick Inc. would report a liability of \$1,100,000 at December 31, 2010.
- (2) The loss should be accrued for \$6,000,000. The potential insurance recovery is a contingent asset—it is not recorded until received. According to IFRS, claims for recoveries may only be recorded if the recovery is deemed virtually certain.
- (3) This is a contingent asset because the amount to be received will be in excess of the book value of the plant. Contingent assets are not recorded and are disclosed only when the probabilities are high that a contingent asset will become reality.

EXERCISE 13-17 (25–30 minutes)

| | | | |
|-------------------------------------------|---------------------------------------------------|---------|---------|
| (a) | Depot..... | 600,000 | |
| | Cash..... | | 600,000 |
| | Depot..... | 39,087 | |
| | Environmental Liability | | 39,087 |
| (b) | Depreciation Expense | 60,000 | |
| | Accumulated Depreciation..... | | 60,000 |
| | Depreciation Expense | 3,909 | |
| | Accumulated Depreciation..... | | 3,909* |
| | Interest Expense | 2,345 | |
| | Environmental Liability | | 2,345** |
| <p>*\$39,087/10 **\$39,087 X .06</p> | | | |
| (c) | Environmental Liability | 70,000 | |
| | Loss on Settlement of Environmental Liability.... | 10,000 | |
| | Cash..... | | 80,000 |

EXERCISE 13-18 (20–30 minutes)

| | |
|---------------------------------------------------|---------------------|
| 1. Liability for stamp redemptions, 12/31/09..... | \$13,000,000 |
| Cost of redemptions redeemed in 2010..... | <u>(6,000,000)</u> |
| | 7,000,000 |
| Cost of redemptions to be redeemed in 2011 | |
| (5,200,000 X 80%) | <u>4,160,000</u> |
| Liability for stamp redemptions, 12/31/10..... | <u>\$11,160,000</u> |
| 2. Total coupons issued | \$850,000 |
| Redemption rate | <u>X 60%</u> |
| To be redeemed | 510,000 |
| Handling charges (\$510,000 X 10%) | <u>51,000</u> |
| Total cost | <u>\$561,000</u> |
| Total cost | \$561,000 |
| Total payments to retailers | <u>(330,000)</u> |
| Liability for unredeemed coupons | <u>\$231,000</u> |
| 3. Boxes | 600,000 |
| Redemption rate | <u>X 70%</u> |
| Total redeemable..... | <u>420,000</u> |
| Coupons to be redeemed (420,000 – 250,000)..... | 170,000 |
| Cost (\$6.50 – \$4.00) | <u>X \$2.50</u> |
| Liability for unredeemed coupons | <u>\$425,000</u> |

EXERCISE 13-19 (20–30 minutes)

- (1) The present value of the major overhaul payments (\$3,200,000) should be included as part of the cost of the ship. The ship should be recorded at \$23,200,000.

| | | |
|-------------------------------|------------|------------|
| Ship | 23,200,000 | |
| Cash..... | | 20,000,000 |
| Environmental Liability | | 3,200,000 |
| Depreciation Expense | 580,000 | |
| Accumulated Depreciation..... | | 580,000 |

Note: Braegger would also accrue interest at the effective rate on the Environmental Liability.

- (2) The lease is considered an onerous contract because the unavoidable costs of meeting the obligations under the lease exceed the benefits (facilities will no longer be used). The expected costs to satisfy the onerous contract (the \$62,000 penalty for non-payment) are accrued.

| | | |
|--------------------------------|--------|--------|
| Loss on Lease Contract..... | 62,000 | |
| Lease Contract Liability | | 62,000 |

- (3) The company should recognize the costs associated with dismantling the plant upon building the plant as it has a legal obligation associated with its retirement.

| | | |
|-------------------------------|------------|------------|
| Nuclear Power Plant | 40,000,000 | |
| Cash..... | | 40,000,000 |
| Nuclear Power Plant | 1,000,000 | |
| Environmental Liability | | 1,000,000 |

EXERCISE 13-20 (20–30 minutes)

| | | | |
|-----|-------------------------|-----------|-----------|
| (1) | Warranty Expense* | 5,000,000 | |
| | Warranty Liability..... | | 5,000,000 |

***Expected warranty costs**

| | % | Units | Cost per Unit | Total Costs |
|---------------|------|------------------|---------------|------------------|
| No defects | 60% | 600,000 | \$ 0 | \$ 0 |
| Major defects | 30% | 300,000 | 15 | 4,500,000 |
| Minor defects | 10% | 100,000 | 5 | 500,000 |
| Total | 100% | <u>1,000,000</u> | | <u>5,000,000</u> |

| | | | |
|-----|--------------------|---------|---------|
| (2) | Tax Expense..... | 400,000 | |
| | Taxes Payable..... | | 400,000 |

| | | | |
|-----|----------------------|-----------|-----------|
| (3) | Sales Returns* | 5,600,000 | |
| | Cash | | 5,600,000 |

***\$80,000,000 x (5% + 9%)/2**

EXERCISE 13-21 (20–25 minutes)

| # | Assets | Liabilities | Equity | Net Income |
|-----|--------|-------------|--------|------------|
| 1. | I | I | NE | NE |
| 2. | NE | NE | NE | NE |
| 3. | NE | I | D | D |
| 4. | I | I | NE | NE |
| 5. | NE | I | D | D |
| 6. | I | I | I | I |
| 7. | D | I | D | D |
| 8. | NE | I | D | D |
| 9. | NE | I | D | D |
| 10. | I | I | NE | NE |
| 11. | NE | I | D | D |
| 12. | I | I | I | I |
| 13. | NE | I | D | D |
| 14. | D | D | NE | NE |
| 15. | NE | I | D | D |
| 16. | D | NE | D | D |
| 17. | NE | D | I | I |
| 18. | NE | I | D | D |

EXERCISE 13-22 (10–15 minutes)

$$(a) \quad \text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\$210,000}{\$70,000} = 3.00$$

Current ratio measures the short-term ability of the company to meet its currently maturing obligations.

$$(b) \quad \text{Acid-test ratio} = \frac{\text{Cash} + \text{Short-term Investments} + \text{Net Receivables}}{\text{Current Liabilities}} = \frac{\$115,000}{\$70,000} = 1.64$$

Acid-test ratio also measures the short-term ability of the company to meet its currently maturing obligations. However, it eliminates assets that might be slow moving, such as inventories and prepaid expenses.

$$(c) \quad \text{Debt to total assets} = \frac{\text{Total Liabilities}}{\text{Total Assets}} = \frac{\$210,000}{\$430,000} = 48.84\%$$

This ratio provides the creditors with some idea of the corporation's ability to withstand losses without impairing the interests of creditors.

$$(d) \quad \text{Rate of return on assets} = \frac{\text{Net Income}}{\text{Average Total Assets}} = \frac{\$25,000}{\$430,000} = 5.81\%$$

This ratio measures the return the company is earning on its average total assets and provides one indication related to the profitability of the enterprise.

EXERCISE 13-23 (20–25 minutes)

(a) (1) **Current ratio** = $\frac{¥733,000}{¥240,000} = 3.05$

(2) **Acid-test ratio** = $\frac{¥52,000 + ¥158,000 + ¥80,000}{¥240,000} = 1.21$

(3) **Accounts receivable turnover** =
 $¥1,640,000 \div \frac{¥80,000 + ¥158,000}{2} = 13.8 \text{ times (or approximately every 26 days)}$

(4) **Inventory turnover** =
 $¥800,000 \div \frac{¥360,000 + ¥440,000}{2} = 2 \text{ times (or approximately every 183 days)}$

(5) **Rate of return on assets** =
 $¥320,000 \div \frac{¥1,400,000 + ¥1,630,000}{2} = 21.12\%$

(6) **Profit margin on sales** =
 $¥320,000 \div ¥1,640,000 = 19.51\%$

- (b) **Financial ratios should be evaluated in terms of industry peculiarities and prevailing business conditions. Although industry and general business conditions are unknown in this case, the company appears to have a relatively strong current position. The main concern from a short-term perspective is the apparently low inventory turnover. The rate of return on assets and profit margin on sales are extremely good and indicate that the company is employing its assets advantageously.**

EXERCISE 13-24 (15–25 minutes)

- (a) (1) $€318,000 \div €87,000 = 3.66 \text{ times}$
- (2) $€820,000 \div \frac{€200,000 + €170,000}{2} = 4.43 \text{ times}$
(or approximately 82 days).
- (3) $€1,400,000 \div \$95,000 = 14.74 \text{ times (or approximately 25 days).}$
- (4) $€210,000 \div 52,000 (\text{€}260,000 \div \text{€}5) = \4.04
- (5) $€210,000 \div \$1,400,000 = 15.0\%$
- (6) $€210,000 \div \$488,000 = 43.03\%$
- (b) (1) No effect on current ratio, if already included in the allowance for doubtful accounts.
- (2) Weaken current ratio by reducing current assets.
- (3) Improve current ratio by reducing current assets and current liabilities by a like amount.
- (4) No effect on current ratio.
- (5) Weaken current ratio by increasing current liabilities.
- (6) No effect on current ratio.

TIME AND PURPOSE OF PROBLEMS

Problem 13-1 (Time 25–30 minutes)

Purpose—to present the student with an opportunity to prepare journal entries for a variety of situations related to liabilities. The situations presented are basic ones including purchases and payments on account, and borrowing funds by giving a zero-interest-bearing note. The student is also required to prepare year-end adjusting entries.

Problem 13-2 (Time 25–35 minutes)

Purpose—to present the student with the opportunity to prepare journal entries for several different situations related to liabilities. The situations presented include accruals and payments related to sales, use, and environmental liabilities. Year-end adjusting entries are also required.

Problem 13-3 (Time 20–30 minutes)

Purpose—to present the student with an opportunity to prepare journal entries for four weekly payrolls. The student must compute income tax to be withheld, and social security tax.

Problem 13-4 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to prepare journal entries for a monthly payroll. The student must compute income tax to be withheld, and social security tax.

Problem 13-5 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to prepare journal entries and statement of financial position presentations for warranty costs under the cash-basis and the expense warranty accrual methods. Entries in the sales year and one subsequent year are required. The problem highlights the differences between the two methods in the accounts and on the statement of financial position.

Problem 13-6 (Time 10–20 minutes)

Purpose—to provide the student with a basic problem covering the sales-warranty method. The student is required to prepare journal entries in the year of sale and in subsequent years when warranty costs are incurred. Also required are statement of financial position presentations for the year of sale and one subsequent year. While the problem is basic in nature it does test the student's ability to understand and apply the sales warranty method.

Problem 13-7 (Time 25–35 minutes)

Purpose—to provide the student with an opportunity to prepare journal entries for warranty costs under the expense warranty method and the cash-basis method. The student is also required to indicate the proper statement of financial position disclosures under each method for the year of sale. Finally, the student is required to comment on the effect on net income of applying each method. The problem highlights the differences between the two methods in the accounts and on the statement of financial position.

Problem 13-8 (Time 15–25 minutes)

Purpose—to provide the student with a basic problem in accounting for premium offers. The student is required to prepare journal entries relating to sales, the purchase of the premium inventory, and the redemption of coupons. The student must also prepare the year-end adjusting entry reflecting the estimated liability for premium claims outstanding. A very basic problem.

Time and Purpose of Problems (Continued)

Problem 13-9 (Time 30–45 minutes)

Purpose—to present the student with a slightly complicated problem related to accounting for premium offers. The problem is more complicated in that coupons redeemed are accompanied by cash payments, and in addition to the cost of the premium item postage costs are also incurred. The student is required to prepare journal entries for various transactions including sales, purchase of the premium inventory, and redemption of coupons for two years. The second year's entries are more complicated due to the existence of the liability for claims outstanding. Finally the student is required to indicate the amounts related to the premium offer that would be included in the financial statements for each of two years. This very realistic problem challenges the student's ability to account for all transactions related to premium offers.

Problem 13-10 (Time 25–30 minutes)

Purpose—to present the student with the problem of determining the proper amount of and disclosure for a contingent liability due to lawsuits. The student is required to prepare a journal entry and a footnote. The student is also required to discuss any liability incurred by a company due to the risk of loss from lack of insurance coverage. A straightforward problem dealing with contingent liabilities.

Problem 13-11 (Time 35–45 minutes)

Purpose—to provide the student with a comprehensive problem dealing with contingent liabilities. The student is required to prepare journal entries for each of three independent situations. For each situation the student must also discuss the appropriate disclosure in the financial statements. The situations presented include a lawsuit, an expropriation, and a self-insurance situation. This problem challenges the student not only to apply the guidelines set forth in **IFRS**, but also to develop reasoning as to how the guidelines relate to each situation.

Problem 13-12 (Time 20–30 minutes)

Purpose—to provide the student with a problem to calculate warranty expense, warranty liability, premium expense, inventory of premiums, and estimated premium? liability.

Problem 13-13 (Time 25–35 minutes)

Purpose—to present the student with a comprehensive problem in determining various liabilities and present findings in writing. Issues addressed relate to contingencies, warranties, and litigation.

Problem 13-14 (Time 20–25 minutes)

Purpose—to present the student with a comprehensive problem in determining the amounts of various liabilities. The student must calculate (for independent situations) the estimated liability for warranties, and an estimated liability for premium claims outstanding. Journal entries are not required. This problem should challenge the better students.

SOLUTIONS TO PROBLEMS

| |
|---------------------|
| PROBLEM 13-1 |
|---------------------|

| | | | |
|-----|---------------------------------------------------|---------|---------|
| (a) | February 2 | | |
| | Purchases (\$70,000 X 98%) | 68,600 | |
| | Accounts Payable | | 68,600 |
| | February 26 | | |
| | Accounts Payable | 68,600 | |
| | Purchase Discounts Lost | 1,400 | |
| | Cash | | 70,000 |
| | April 1 | | |
| | Trucks | 50,000 | |
| | Cash | | 4,000 |
| | Notes Payable | | 46,000 |
| (b) | August 1 | | |
| | Retained Earnings (Dividends Declared) | 300,000 | |
| | Dividends Payable | | 300,000 |
| | September 10 | | |
| | Dividends Payable | 300,000 | |
| | Cash | | 300,000 |
| | December 31 | | |
| | 1. No adjustment necessary | | |
| | 2. Interest Expense (\$46,000 X 12% X 9/12) | 4,140 | |
| | Interest Payable | | 4,140 |
| | 3. No adjustment necessary | | |

| |
|---------------------|
| PROBLEM 13-2 |
|---------------------|

| | | | | |
|----|-----------|-----------------------------------------|---------|---------|
| 1. | Dec. 5 | Cash..... | 500 | |
| | | Returnable Deposit (Liability) | | 500 |
| 2. | Dec. 1-31 | Cash..... | 798,000 | |
| | | Sales ($\$798,000 \div 1.05$) | | 760,000 |
| | | Sales Taxes Payable | | |
| | | ($\$760,000 \times .05$)..... | | 38,000 |
| 3. | Dec. 10 | Trucks ($\$120,000 \times 1.05$)..... | 126,000 | |
| | | Cash | | 126,000 |
| 4. | Dec. 31 | Parking Lot..... | 84,000 | |
| | | Environmental Liability | | 84,000 |

PROBLEM 13-3

Entries for Payroll 1

| | | |
|-----------------------------------------------------------|------------------|---------------|
| Wages and Salaries Expense | 1,040.00* | |
| Withholding Taxes Payable (10% X \$1,040)* | | 104.00 |
| Social Security Taxes Payable (8% X \$1,040) | | 83.20 |
| Union Dues Payable (2% X \$1,040) | | 20.80 |
| Cash | | 832.00 |

$$*\$200 + \$150 + \$110 + \$250 + \$330 = \$1,040$$

| | | |
|-----------------------------------------------------------|--------------|--------------|
| Payroll Tax Expense | 83.20 | |
| Social Security Taxes Payable (8% X \$1,040) | | 83.20 |

Entries for Payroll 2 and 3

| | | |
|-----------------------------------------------------------|----------------|---------------|
| Vacation Wages Payable | 590.00* | |
| Wages and Salaries Expense | 450.00 | |
| Withholding Taxes Payable (10% X \$1,040) | | 104.00 |
| Social Security Taxes Payable (8% X \$1,040) | | 83.20 |
| Union Dues Payable (2% X \$1,040) | | 20.80 |
| Cash | | 832.00 |

$$*(\$300 + \$220 + \$660) \div 2$$

| | | |
|--------------------------------------|--------------|--------------|
| Payroll Tax Expense | 83.20 | |
| Social Security Taxes Payable | | |
| (8% X \$1,040) | | 83.20 |

PROBLEM 13-3 (Continued)

Entries for Payroll 4

| | | |
|---------------------------------------------------|----------|--------|
| Wages and Salaries Expense..... | 1,040.00 | |
| Withholding Taxes Payable (10% X \$1,040)..... | | 104.00 |
| Social Security Taxes Payable (8% X \$1,040)..... | | 83.20 |
| Union Dues Payable (2% X \$1,040)..... | | 20.80 |
| Cash..... | | 832.00 |
| Payroll Tax Expense | 83.20 | |
| Social Security Taxes Payable (8% X \$1,040)..... | | 83.20 |

Monthly Payment of Payroll Liabilities

| | | |
|---------------------------------------------------|--------|----------|
| Withholding Taxes Payable (\$104.00 X 4)..... | 416.00 | |
| Social Security Taxes Payable (\$83.20 X 8) | 665.60 | |
| Union Dues Payable (\$20.80 X 4)..... | 83.20 | |
| Cash..... | | 1,164.80 |

PROBLEM 13-4

(a)

| Name | Earnings to Aug. 31 | September Earnings | Income Tax Withholding | Social Security |
|----------------|------------------------|-----------------------|---------------------------|--------------------|
| B. D. Williams | \$ 6,800 | \$ 800 | \$ 80 | \$ 64 |
| D. Raye | 6,500 | 700 | 70 | 56 |
| K. Baker | 7,600 | 1,100 | 110 | 88 |
| F. Lopez | 13,600 | 1,900 | 190 | 152 |
| A. Daniels | 105,000 | 13,000 | 1,300 | 1,040 |
| B. Kingston | <u>112,000</u> | <u>16,000</u> | <u>1,600</u> | <u>1,280</u> |
| Total | <u>\$251,500</u> | <u>\$33,500</u> | <u>\$3,350</u> | <u>\$2,680</u> |

^a\$13,000 X 1.45% = \$188.50

^b\$16,000 X 1.45% = \$232.00

| | | |
|-------------------------------------|-----------|-----------|
| Wages and Salaries Expense | 33,500.00 | |
| Withholding Taxes Payable | | 3,350.00 |
| Social Security Taxes Payable | | 2,680.00 |
| Cash..... | | 27,470.00 |

| | | |
|-------------------------------------|----------|----------|
| (b) Payroll Tax Expense | 2,680.00 | |
| Social Security Taxes Payable | | 2,680.00 |

| | | |
|-------------------------------------|----------|-------|
| (c) Withholding Taxes Payable..... | 3,350.00 | |
| Social Security Taxes Payable | 5,360 | |
| Cash..... | | 8,710 |

| |
|---------------------|
| PROBLEM 13-5 |
|---------------------|

| | | | |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------|-----------|
| (a) | Cash (400 X £2,500) | 1,000,000 | |
| | Sales | | 1,000,000 |
| (b) | Cash (400 X £2,500) | 1,000,000 | |
| | Sales | | 1,000,000 |
| | Warranty Expense (400 X [£155 + £185]) | 136,000 | |
| | Warranty Liability | | 136,000 |
| (c) No liability would be disclosed under the cash-basis method relative to future costs due to warranties on past sales. | | | |
| (d) | Current Liabilities: | | |
| | Warranty Liability | | £68,000 |
| | Long-term Liabilities: | | |
| | Warranty Liability | | £68,000 |
| (e) | Warranty Expense | 61,300 | |
| | Parts Inventory | | 21,400 |
| | Accrued Payroll | | 39,900 |
| (f) | Warranty Liability | 61,300 | |
| | Parts Inventory | | 21,400 |
| | Accrued Payroll | | 39,900 |

| |
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| PROBLEM 13-6 |
|---------------------|

| | | | |
|-----|----------------------------------------------------------------------------------|---------|----------|
| (a) | Cash | 294,300 | |
| | Sales (300 X \$900)..... | | 270,000 |
| | Unearned Warranty Revenue | | |
| | (270 X \$90)..... | | 24,300 |
| (b) | Current Liabilities: | | |
| | Unearned Warranty Revenue | | |
| | (\$24,300/3) | | \$ 8,100 |
| | (Note: Warranty costs assumed to be incurred equally over the three-year period) | | |
| | Non-current Liabilities: | | |
| | Unearned Warranty Revenue | | |
| | (\$24,300 X 2/3)..... | | \$16,200 |
| (c) | Unearned Warranty Revenue | 8,100 | |
| | Warranty Revenue | | 8,100 |
| | Warranty Expense | 6,000 | |
| | Parts Inventory | | 2,000 |
| | Accrued Payroll | | 4,000 |
| (d) | Current Liabilities: | | |
| | Unearned Warranty Revenue | | \$ 8,100 |
| | Non-current Liabilities: | | |
| | Unearned Warranty Revenue | | \$ 8,100 |

| |
|---------------------|
| PROBLEM 13-7 |
|---------------------|

- | | | | | |
|-----|-----|---------------------------------------------|-----------|-----------|
| (a) | (1) | Cash or Accounts Receivable | 4,440,000 | |
| | | Sales (600 X \$7,400) | | 4,440,000 |
| | (2) | Warranty Expense | 117,000 | |
| | | Parts Inventory (\$170 X 600 X 1/2) | | 51,000 |
| | | Accrued Payroll (\$220 X 600 X 1/2) | | 66,000 |
| | | (\$117,000 = $\frac{600 \times \$390}{2}$) | | |
| | (3) | Warranty Expense | 117,000 | |
| | | Warranty Liability | | |
| | | (600 machines X \$390) – \$117,000 | | 117,000 |
| | (4) | Warranty Liability | 117,000 | |
| | | Parts Inventory | | 51,000 |
| | | Accrued Payroll | | 66,000 |
- (b) (1) Cash 4,440,000
- Sales..... 4,440,000
- (2) Warranty Expense 117,000
- Parts Inventory 51,000
- Accrued Payroll..... 66,000
- (3) Under the cash-basis method, the total warranty expense is recorded through entries 2 and 4 which recognize warranty costs as incurred. Warranty expense for 2011 is \$117,000 under the cash basis.
- (4) Warranty Expense 117,000
- Parts Inventory 51,000
- Accrued Payroll..... 66,000
- (c) Cash-basis method:
- No liability for future costs to be incurred under outstanding warranties is recorded or normally disclosed under the cash basis method.

PROBLEM 13-7 (Continued)

Expense warranty accrual method:

As of 12/31/10 the statement of financial condition would disclose a current liability in the amount of \$117,000 for Warranty Liability.

- (d) In the case of Alvarado Company, the expense warranty accrual method reflects properly the income resulting from operations in 2010 and 2011 because the warranty costs are matched with the revenues resulting from the sale, which required such costs to be incurred. Under the cash-basis method, the warranty costs appearing on the 2011 income statement are charged against unrelated revenues; 2010 net income is overstated and 2011 net income is understated.**

| |
|---------------------|
| PROBLEM 13-8 |
|---------------------|

| | | |
|--------------------------------------------------------------------------------------------|---------------|------------------|
| Inventory of Premium Puppets..... | 60,000 | |
| Cash..... | | 60,000 |
| (To record purchase of 40,000 puppets at €1.50 each) | | |
| Cash..... | 1,800,000 | |
| Sales | | 1,800,000 |
| (To record sales of 480,000 boxes at €3.75 each) | | |
| Premium Expense..... | 34,500 | |
| Inventory of Premium Puppets | | 34,500 |
| [To record redemption of 115,000 coupons. Computation: (115,000 ÷ 5) X €1.50 = €34,500] | | |
| Premium Expense..... | 23,100 | |
| Premium Liability..... | | 23,100 |
| [To record estimated liability for premium claims outstanding at December 31, 2011.] | | |
| Computation: Total coupons issued in 2011 | | <u>480,000</u> |
| Total estimated redemptions (40% X 480,000) | | 192,000 |
| Coupons redeemed in 2011 | | <u>(115,000)</u> |
| Estimated future redemptions | | <u>77,000</u> |
| Cost of estimated claims outstanding (77,000 ÷ 5) X €1.50 = €23,100 | | |

PROBLEM 13-9

| | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|--|
| (a) | <u>2010</u> | | |
| Inventory of Premium CDs | 562,500 | | |
| Cash | | 562,500 | |
| (To record the purchase of 250,000 CDs at \$2.25 each) | | | |
| Cash | 868,620 | | |
| Sales | | 868,620 | |
| (To record the sale of 2,895,400 candy bars at 30 cents each) | | | |
| Cash [\$600,000 – (240,000 X \$.50)] | 480,000 | | |
| Premium Expense | 60,000 | | |
| Inventory of Premium CDs | | 540,000 | |
| [To record the redemption of 1,200,000 wrappers, the receipt of \$600,000 (1,200,000 ÷ 5) X \$2.50, and the mailing of 240,000 CDs] | | | |
| Computation of premium expense: | | | |
| 240,000 CDs @ \$2.25 each | \$540,000 | | |
| Postage—240,000 X \$.50 | 120,000 | | |
| | \$660,000 | | |
| Less: Cash received— | | | |
| 240,000 X \$2.50 | 600,000 | | |
| Premium expense for CDs issued | \$ 60,000 | | |
| Premium Expense | 14,500* | | |
| Premium Liability | | 14,500 | |
| (To record the estimated liability for premium claims outstanding at 12/31/10) | | | |
| *(290,000 ÷ 5) X (\$2.25 + \$.50 – \$2.50) = \$14,500 | | | |

PROBLEM 13-9 (Continued)

| | <u>2011</u> | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------|
| Inventory of Premium CDs..... | 742,500 | |
| Cash..... | | 742,500 |
| (To record the purchase of 330,000 CDs at \$2.25 each) | | |
| Cash..... | 823,080 | |
| Sales | | 823,080 |
| (To record the sale of 2,743,600 candy bars at 30 cents each) | | |
| Cash (\$750,000 – \$150,000)..... | 600,000 | |
| Premium Liability | 14,500 | |
| Premium Expense | 60,500 | |
| Inventory of Premium CDs | | 675,000 |
| (To record the redemption of 1,500,000 wrappers, the receipt of \$750,000 [(1,500,000 ÷ 5) X \$2.50], and the mailing of 300,000 CDs.) | | |
| Computation of premium expense: | | |
| 300,000 CDs @ \$2.25 | \$675,000 | |
| Postage—300,000 @ \$.50 | <u>150,000</u> | |
| | 825,000 | |
| Less: Cash received— | | |
| (1,500,000 ÷ 5) X \$2.50 | <u>750,000</u> | |
| Premium expense for CDs issued | 75,000 | |
| Less: Outstanding claims at 12/31/10 | | |
| charged to 2010 but redeemed in 2011 | <u>14,500</u> | |
| Premium expense chargeable to 2011 | <u>\$ 60,500</u> | |
| Premium Expense | \$ 17,500* | |
| Premium Liability..... | | 17,500 |
| *(350,000 ÷ 5) X (\$2.25 + \$.50 – \$2.50) = \$17,500 | | |

PROBLEM 13-9 (Continued)

(b)

| Account | Amount | | Classification |
|--------------------------|-----------|------------|-------------------|
| | 2010 | 2011 | |
| Inventory of Premium CDs | \$22,500* | \$90,000** | Current asset |
| Premium Liability | 14,500 | 17,500 | Current liability |
| Premium Expense | 74,500*** | 78,000**** | Selling expense |

*\$2.25 (250,000 – 240,000)

**\$2.25 (10,000 + 330,000 – 300,000)

***\$60,000 + \$14,500

****\$60,500 + \$17,500

PROBLEM 13-10

- (a) Because the cause for litigation occurred before the date of the financial statements (that is, it is a present obligation as a result of past events) and because it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made, Windsor Airlines should report a loss and a liability in the December 31, 2010, financial statements. The loss and liability might be recorded as follows:

Loss from Uninsured Accident

(\$9,000,000 X 60%)..... 5,400,000

Liability for Uninsured Accident..... 5,400,000

Note to the Financial Statements

Due to an accident which occurred during 2010, the Company is a defendant in personal injury suits totaling \$9,000,000. The Company is charging the year of the casualty with \$5,400,000 in estimated losses, which represents the amount that the company legal counsel estimates will finally be awarded.

- (b) Windsor Airlines need not establish a liability for risk of loss from lack of insurance coverage itself. IFRS does not require or allow the establishment of a liability for expected future injury to others or damage to the property of others even if the amount of the losses is reasonably estimable. The cause for a loss must occur on or before the reporting date for a contingent liability to be recorded. However, the fact that Windsor is self-insured should be disclosed in a note.

| |
|----------------------|
| PROBLEM 13-11 |
|----------------------|

- (a)
- | | | | |
|----|----------------------------------------|-----------|-----------|
| 1. | Loss from Uninsured Accident..... | 250,000 | |
| | Liability for Uninsured Accident..... | | 250,000 |
| 2. | Loss from Expropriation..... | 1,925,000 | |
| | Allowance for Expropriation | | |
| | [€5,725,000 – (40% X €9,500,000)]..... | | 1,925,000 |
| 3. | No entry required. | | |
| 4. | Loss on Lease Contract..... | 950,000 | |
| | Lease Contract Liability | | 950,000 |
| 5. | No entry required. | | |
- (b) 1. A loss and a liability have been recorded in the first case because (i) the company has a present obligation as of the date of the financial statements as the result of a past event, (ii) it is probable that an outflow will be required to settle the obligation, and (iii) a reliable estimate can be made. That is, the occurrence of the uninsured accidents during the year plus the outstanding injury suits and the attorney's estimate of probable loss required recognition of a contingent liability.

PROBLEM 13-11 (Continued)

- 2. An entry to record a loss and establish an allowance due to threat of expropriation is necessary because the expropriation is imminent as evidenced by the foreign government's communicated intent to expropriate and the virtual certainty of a settlement from the government. That is, enough evidence exists to reasonably estimate the amount of the probable loss resulting from impairment of assets at the reporting date. The amount of the loss is measured by the amount that the carrying value (book value) of the assets exceeds the expected compensation. At the time the expropriation occurs, the related assets are written off against the allowance account. In this problem, we established a valuation account because certain specific assets were impaired. A valuation account was established rather than a liability account because the net realizability of the assets affected has decreased. A more appropriate presentation would, therefore, be provided for statement of financial position purposes on the realizability of the assets. It does not seem appropriate at this point to write off the assets involved because it may be difficult to determine all the specific assets involved, and because the assets still have not been expropriated.**

PROBLEM 13-11 (Continued)

- 3. Even though Polska's chemical product division is uninsurable due to high risk and has sustained repeated losses in the past, as of the reporting date no assets have been impaired or liabilities incurred nor is an amount reasonably estimable. Therefore, this situation does not satisfy the criteria for recognition of a contingent liability. Also, unless a casualty has occurred or there is some other evidence to indicate impairment of an asset prior to the issuance of the financial statements, there is no disclosure required relative to a contingent liability. The absence of insurance does not of itself result in the impairment of assets or the incurrence of liabilities. Expected future injuries to others or damage to the property of others, even if the amount is reasonably estimable, does not require recording a loss or a liability. The cause for loss or litigation or claim must have occurred on or prior to the reporting date and the amount of the loss must be reasonably estimable in order for a contingent liability to be recorded. Disclosure is required when one or both of the criteria for a contingent liability are not satisfied and there is a reasonable possibility that a liability may have been incurred or an asset impaired, or, it is probable that a claim will be asserted and there is a reasonable possibility of an unfavorable outcome.**
- 4. By moving to another factory, Polska has a lease contract with unavoidable costs of meeting the obligations that exceed the economic benefits expected to be received. This is considered an onerous contract and the expected costs to satisfy the onerous contract should be accrued.**
- 5. Possible favorable outcomes from pending court cases are considered contingent assets. Contingent assets are not recognized unless the outcome is virtually certain. The outcome in Polska's situation is not virtually certain. The evidence provided does not even support that the outcome is probable (an attorney opinion should be provided). Without evidence that the outcome is probable, the litigation should not be disclosed.**

PROBLEM 13-12

| | | |
|-----|--------------------------------------------------------------------------------------|-------------------|
| (1) | Sales of musical instruments and sound equipment..... | \$5,700,000 |
| | Estimated warranty cost | X .02 |
| | Warranty expense for 2010..... | <u>\$ 114,000</u> |
| (2) | Warranty liability—1/1/10 | \$ 136,000 |
| | 2010 warranty expense (Requirement 1) | <u>114,000</u> |
| | Subtotal | 250,000 |
| | Actual warranty costs during 2010..... | <u>(164,000)</u> |
| | Warranty liability—12/31/10 | <u>\$ 86,000</u> |
| (3) | Coupons issued (1 coupon/\$1 sale)..... | 1,500,000 |
| | Estimated redemption rate | X .60 |
| | Estimated number of coupons to be redeemed..... | 900,000 |
| | Exchange rate (200 coupons for a CD player) | ÷ 200 |
| | Estimated number of premium CD players to be issued..... | 4,500 |
| | Net cost of CD players (\$32 – \$20)..... | X 12 |
| | Premium expense for 2010 | <u>\$ 54,000</u> |
| (4) | Inventory of premium CD players—1/1/10 | \$ 37,600 |
| | Premium CD players purchased during 2010 (6,500 X \$32)..... | <u>208,000</u> |
| | Premium CD players available | 245,600 |
| | Premium CD players exchanged for coupons during 2010 (1,200,000/200 X \$32) | <u>(192,000)</u> |
| | Inventory of premium CD players—12/31/10..... | <u>\$ 53,600</u> |
| (5) | Estimated premium liability—1/1/10..... | \$ 44,800 |
| | 2010 premium expense (Requirement 3) | <u>54,000</u> |
| | Subtotal | 98,800 |
| | Actual redemptions during 2010 [1,200,000/200 X (\$32 – \$20)] | <u>(72,000)</u> |
| | Estimated premium liability—12/31/10 | <u>\$ 26,800</u> |

PROBLEM 13-13

1.

Memo prepared by:

Date:

**Millay Corporation
December 31, 2010**

Recognition of Warranty Expense

During June of this year, the client began the manufacture and sale of a new line of dishwasher. Sales of 120,000 dishwashers during this period amounted to \$60,000,000. These dishwashers were sold under a one-year warranty, and the client estimates warranty costs to be \$25 per appliance (or \$3,000,000).

As of the date of the statement of financial position, the client paid out \$1,000,000 in warranty expenses which was also the amount expensed in its income statement. No recognition of any further liability associated with the warranty had been made.

Because Millay accounts for warranties on the accrual basis, it must recognize the entire \$3,000,000 as warranty expense in the year of sale. The client should have made the following journal entries:

- | | | | |
|-----|-----------------------------------------|------------|------------|
| (a) | Cash/Accounts Receivable..... | 60,000,000 | |
| | Sales (120,000 X \$500)..... | | 60,000,000 |
| | (To record sale of 120,000 dishwashers) | | |
| (b) | Warranty Expense | 1,000,000 | |
| | Cash, Inventory, Accrued Payroll..... | | 1,000,000 |
| | (To record warranty costs incurred) | | |
| (c) | Warranty Expense | | |
| | [(120,000 X \$25) – \$1,000,000]..... | 2,000,000 | |
| | Warranty Liability | | 2,000,000 |
| | (To accrue estimated warranty costs) | | |

PROBLEM 13-13 (Continued)

2.

Memo prepared by:

Date:

**Millay Corporation
December 31, 2010**

Contingent Liability from Violation Of EPA Regulations

I contacted the client's counsel via a routine attorney letter, asking for information about possible litigation in which the company might be involved. Morgan Sondgeroth, Millay's attorney, informed me about court action taken against Millay for dumping toxic waste in the Kishwaukee River.

Although the litigation is pending, Sondgeroth believes that the suit will probably be lost. A reliable estimate of clean up costs and fines is \$2,750,000. The client neither disclosed nor accrued this loss in the financial statements.

Because this obligation existed as of the date of the statement of financial position, it is probable that resources will be used to settle the obligation, and an amount can be reliably estimated, it must be accrued as a provision. I advised the client to record the following entry to accrue this liability.

| | | |
|----------------------------------------------|------------------|------------------|
| Loss from Environmental Cleanup..... | 2,750,000 | |
| Environmental Cleanup Liability | | 2,750,000 |

PROBLEM 13-13 (Continued)

3.

Memo prepared by:

Date:

**Millay Corporation
December 31, 2010**

Contingent Liability on Patent Infringement Litigation

In answer to my attorney letter requesting information about any possible litigation associated with the client, Morgan Sondgeroth informed me that the client is in the middle of a patent infringement suit with Megan Drabek over a hydraulic compressor used in several of Millay's appliances. The loss of this suit is possible. Millay did not in any way disclose this information.

Because the loss is possible, but not probable, and can be estimated at \$5,000,000, it should be disclosed in the notes to the financial statements. I advised the client to include as a footnote to the financial statements a discussion of this pending litigation along with the attorney's assessment that the loss is possible. In addition, I advised the client to disclose the estimated amount of this contingent liability.

| |
|----------------------|
| PROBLEM 13-14 |
|----------------------|

1. Estimated warranty costs:

| | |
|--------------------------------------|------------------|
| On 2009 sales \$ 800,000 X .10..... | \$ 80,000 |
| On 2010 sales \$1,100,000 X .10..... | 110,000 |
| On 2011 sales \$1,200,000 X .10..... | <u>120,000</u> |
| Total estimated costs | 310,000 |
| Total warranty expenditures | <u>(85,700*)</u> |
| Balance of liability, 12/31/11 | <u>\$224,300</u> |

*2009—\$6,500; 2010—\$17,200, and 2011—\$62,000.

The liability account has a balance of \$224,300 at 12/31/11 based on the difference between the estimated warranty costs (totaling \$310,000) for the three years' sales and the actual warranty expenditures (totaling \$85,700) during that same period.

2. Computation of liability for premium claims outstanding:

| | |
|----------------------------------------------|-----------------|
| Unredeemed coupons for 2011 | |
| (\$9,000 – \$8,000)..... | \$ 1,000 |
| 2011 coupons estimated to be redeemed | |
| (\$30,000 X .40) | <u>12,000</u> |
| Total | <u>\$13,000</u> |

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 13-1 (Time 20–25 minutes)

Purpose—to provide the student with the opportunity to define a liability, to distinguish between current and non-current liabilities, and to explain accrued liabilities. The student must also describe how liabilities are valued, explain why notes payable are usually reported first in the current liabilities section, and to indicate the items that may comprise “compensation to employees.”

CA 13-2 (Time 15–20 minutes)

Purpose—to provide the student with three situations that require the application of judgment about the current or non-current nature of the items. The student must think about when typical short-term items might not be classified as current.

CA 13-3 (Time 30–40 minutes)

Purpose—to provide the student with a comprehensive case covering refinancing of short-term debt. Four situations are presented in which the student must determine the proper classification and disclosure of the debt in the financial statements. In order to thoroughly resolve the issues presented, the student is expected to research the IFRS.

CA 13-4 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to comment on the proper treatment in the financial statements of a contingent liability incurred after the reporting date but before issuance of the financial statements. In order to thoroughly answer the case the student will need to understand IAS 1.

CA 13-5 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to specify the conditions by which a contingent liability can be recorded in the accounts. The student is also required to indicate the proper disclosure in the financial statements of the situations where the amount of loss cannot be reliably estimated.

CA 13-6 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to discuss how product warranty costs and the fact that a company is being sued should be reported.

CA 13-7 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to examine the ethical issues related to estimates for bad debts and warranty obligations.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 13-1

- (a) A liability is defined as a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits. In other words, it is an obligation to transfer some type of resource in the future as a result of a past transaction.
- (b) Current liabilities are obligations that are (1) expected to be settled within its normal operating cycle; or (2) expected to be settled within twelve months after the reporting date.
- (c) Accrued liabilities (sometimes called accrued expenses) arise through accounting recognition of unpaid expenses that come into existence as a result of past contractual commitments or past services received. Examples are wages payable, salaries payable, interest payable, property taxes payable, income tax payable, payroll taxes payable, bonus payable, postretirement benefits payable, and so on.
- (d) Theoretically, liabilities should be measured by the present value of the future outlay of cash required to liquidate them. But in practice, current liabilities are usually recorded in accounting records and reported in financial statements at their maturity value. Because of the short time periods involved—frequently less than one year—the difference between the present value of a current liability and the maturity value is not large. The slight overstatement of liabilities that results from carrying current liabilities at maturity value is accepted on the grounds it is immaterial.
- (e) Notes payable are listed first in the statement of financial position because in liquidation they would probably be paid first.
- (f) The item compensation to employees might include:
 - 1. Wages, salaries, or bonuses payable.
 - 2. Compensated absences payable.
 - 3. Postretirement benefits payable.

CA 13-2

- 1. Since the notes payable are due in less than one year from the reporting date, they would generally be reported as a current liability. The only situation in which this short-term obligation could possibly be excluded from current liabilities is if Rodriguez Corp. intends to refinance it. For those notes to qualify for exclusion from current liabilities, the company must meet the following criteria:
 - (1) It must intend to refinance the obligation on a long-term basis, and
 - (2) It must have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

Entering into a financing arrangement that clearly permits the company to refinance the debt on a long-term basis on terms that are readily determinable before the next reporting date is one way to satisfy the second condition.

CA 13-2 (Continued)

2. Generally, deposits from customers would be classified as a current liability. However, the classification of deposits as current or non-current depends on the time involved between the date of deposit and the termination of the relationship that required the deposit. In this case, the \$6,250,000 would be excluded from current liabilities only if the equipment would not be delivered for more than one year (or one operating cycle).
3. Salaries payable is an accrued liability which in almost all circumstances would be reported as a current liability (could not be excluded).

CA 13-3

- (a) No. IFRS indicate that refinancing a short-term obligation on a long-term basis also requires that a company have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.
- (b) No. The events described will not have an impact on the financial statements. Since Kobayashi Corporation's refinancing of the long-term debt maturing in March 2011 does not meet the conditions set forth in **IFRS** that obligation should be included in current liabilities. The ¥10,000,000 should continue to be classified as current at December 31, 2010.

A short-term obligation, other than one classified as a current liability, shall be excluded from current liabilities if the entity's intent to refinance the short-term obligation on a long-term basis is supported by an unconditional right to defer the settlement of the liability for at least 12 months after the reporting date.

- (c) Yes. The debt should be included in current liabilities. The issuance of ordinary shares in January does not meet the criteria to have an unconditional right to defer the settlement of the liability for at least 12 months after the reporting date.
- (d) Yes. The ¥10,000,000 should be shown as a current liability on the December 31, 2010 statement of financial position. While the terms of the agreement permit management to refinance on a long-term basis, the agreement was not in force at December 31, 2010.

CA 13-4

Because the casualty occurred subsequent to the reporting date, it meets the criteria of a contingent liability; that is, an asset had not been impaired or a liability incurred at the reporting date. Contingent liabilities are not be accrued by a charge to expense due to the explosion. However, because it had become known before the financial statements were issued that assets were impaired and liabilities were incurred after the reporting date, disclosure is necessary to keep the financial statements from being misleading. The financial statements should indicate the nature of and an estimate of the loss to the company's assets as a result of the explosion and the nature of and an estimate of the contingent liability anticipated from suits that will be filed and claims asserted for injuries and damages.

If the loss to assets or the liability incurrence can be reasonably estimated, disclosure may best be made by supplementing the historical financial statements with pro forma financial data giving effect to the loss as if it had occurred at the date of the financial statements.

CA 13-5

(a) Three conditions must exist before a provision is recorded:

1. A company has present obligation (legal or constructive) as a result of a past event.
2. It is probable that an outflow of resources embodying economic benefits will be required to settle the obligation;
3. A reliable estimate can be made of the amount of the obligation.

(b) When some amount within the range appears at the time to be a better estimate than any other amount within the range, that amount is accrued. When no amount within the range is a better estimate than any other amount, the expected dollar amount (the midpoint) of the range is accrued.

(c) The following disclosure in the notes is required:

1. The nature of the contingent liability.
2. An estimate of the possible loss or range of loss or a statement that an estimate cannot be made.
3. An estimate of its financial effect.
4. An indication of uncertainties related to the amount or timing of payment; and
5. The possibility of any reimbursement.

CA 13-6

Part 1. For Product Grey, the estimated product warranty costs should be accrued by a charge to expense and a credit to a liability because the following conditions were met:

1. A company has a present obligation (legal or constructive) as a result of a past event;
2. It is probable that an outflow of resources embodying economic benefits will be required to settle the obligation;
3. A reliable estimate can be made of the amount of the obligation (1% of sales).

For Product Yellow, the estimated product warranty costs should not be accrued by a charge to income because the amount of loss cannot be reliably estimated. Since only two of the conditions are satisfied, a disclosure by means of a note should be made.

Part 2. The probable judgment (£1,000,000) should be accrued by a charge to expense and a credit to a liability because the following conditions were met.

1. A company has a present obligation (legal or constructive) as a result of a past event.
2. It is probable that an outflow of resources embodying economic benefits will be required to settle the obligation because Constantine's lawyer states that it is probable that Constantine will lose the suit.
3. A reliable estimate can be made of the amount of the obligation because Constantine's lawyer states that the most probable judgment is £1,000,000.

Constantine should disclose in its financial statements or notes the following:

The amount of the suit (£4,000,000).
The nature of the accrual.
The nature of the provision.
The range of possible loss (£400,000 to £2,000,000).

CA 13-7

- (a) No, Hamilton should not follow his owner's directive if his (Hamilton's) original estimates are reasonable.
- (b) Rich Clothing Store benefits in lower rental expense. The Dotson Company is harmed because the misleading financial statement deprives it of its rightful rental fees. In addition, the current shareholders of Rich Clothing Store are harmed because the lower net income reduces the current value of their holdings.
- (c) Rich is acting unethically to avoid the terms of his rental agreement at the expense of his landlord and his own shareholders.

FINANCIAL REPORTING PROBLEM

- (a) M&S's short-term borrowings were £928.6 million at March 29, 2008.

SHORT-TERM DEBT

| (In millions) | 2008 |
|------------------------------|---------------|
| Bank loans | £257.4 |
| Syndicated bank facility | 615.0 |
| Finance lease liabilities | <u>6.2</u> |
| Total | 878.6 |
| Partnership liability to M&S | |
| UK pension scheme | <u>50.0</u> |
| Total short-term debt | <u>£928.6</u> |

The weighted-average interest rate is only provided for the Partnership liability to M&S UK pension scheme (5.7%) and the finance lease liabilities (5.0%).

- (b) 1. Working capital = Current assets less current liabilities.

$$(\text{£}807,200,000) = (\text{£}1,181,700,000 - \text{£}1,988,900,000)$$

$$2. \text{ Acid-test ratio} = \frac{\text{Cash} + \text{short-term investments} + \text{net receivables}}{\text{Current liabilities}}$$

$$0.35 \text{ times} = \frac{\text{£}318,000,000 + \text{£}18,400,000 + \text{£}307,600,000 + \text{£}48,800,000}{\text{£}1,988,900,000}$$

$$3. \text{ Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$0.59 \text{ times} = \frac{\text{£}1,181,700,000}{\text{£}1,988,900,000}$$

FINANCIAL REPORTING PROBLEM (Continued)

While M&S's current and acid-test ratios are below one, this may not indicate a weak liquidity position. Many large companies carry relatively high levels of accounts payable, which charge no interest. For example, M&S has almost £1 billion of these short-term obligations, which can be viewed as very cheap forms of financing. Nonetheless, its short-term debt (see part (a)) has increased significantly (from £461 million to £879 million) in 2008, which raises some liquidity/working capital concerns. Combine this with the negative working capital and liquidity appears to be a problem. Comparisons to industry are required to fully assess liquidity.

- (c) M&S provided the following discussion related to commitments and contingencies:

28 Contingencies and commitments

A Capital commitments

| | 2008 £m | 2007 £m |
|-----------------------------------------------------------------------|------------|------------|
| Commitments in respect of properties in the course of construction | 182.8 | 265.8 |

B Other material contracts

In the event of a material change in the trading arrangements with certain warehouse operators, the Group has a commitment to purchase property, plant and equipment, at values ranging from historical net book value to market value, which are currently owned and operated by them on the Group's behalf.

FINANCIAL REPORTING PROBLEM (Continued)

C Commitments under operating leases

The Group leases various stores, offices, warehouses and equipment under non-cancellable operating lease agreements. The leases have varying terms, escalation clauses and renewal rights.

| | 2008 £m | 2007 £m |
|-------------------------------------------------------------------------------|----------------|----------------|
| <hr/> | | |
| Total future minimum rentals under non-cancellable operating leases expiring: | | |
| Not later than one year | 17.9 | 10.6 |
| Later than one year and not later than five years | 90.4 | 57.4 |
| Later than five years and not later than 25 years | 2,223.6 | 1,778.3 |
| Later than 25 years | <u>1,492.4</u> | <u>1,527.6</u> |
| Total | <u>3,824.3</u> | <u>3,373.9</u> |

The total future sublease payments to be received are £70.5m (last year £68.8m).

COMPARATIVE ANALYSIS CASE

(a) The working capital position of the two companies is as follows:

Cadbury

| | |
|--------------------------|------------------------|
| Current assets | £ 2,635,000,000 |
| Current liabilities..... | <u>(3,388,000,000)</u> |
| Working capital..... | <u>£ (753,000,000)</u> |

Nestle

| | |
|--------------------------|--------------------------|
| Current assets | CHF33,048,000,000 |
| Current liabilities..... | <u>(33,223,000,000)</u> |
| Working capital..... | <u>CHF (175,000,000)</u> |

COMPARATIVE ANALYSIS CASE (Continued)

(b) The overall liquidity of both companies is good as indicated from the ratio analysis provided below (all computations in millions):

| | Cadbury | | Nestle | |
|----------------------------------|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| Current cash debt coverage ratio | $\frac{\text{£469}}{\frac{\text{£3,388} + \text{£4,614}}{2}} = .12$ | | $\frac{\text{CHF10,763}}{\frac{\text{CHF33,223} + \text{CHF43,326}}{2}} = .28$ | |
| Cash debt coverage ratio | $\frac{\text{£469}}{\frac{\text{£5,361} + \text{£7,165}}{2}} = .07$ | | $\frac{\text{CHF10,763}}{\frac{\text{CHF51,299} + \text{CHF60,585}}{2}} = .19$ | |
| Current ratio | $\frac{\text{£2,635}}{\text{£3,388}} = 0.78$ | | $\frac{\text{CHF33,048}}{\text{CHF33,223}} = .99$ | |
| Acid-test ratio | $\frac{\text{£251} + \text{£247} + \text{£1,067} + \text{£268}}{\text{£3,388}} = .54$ | | $\frac{\text{CHF5,835} + \text{CHF1,296} + \text{CHF13,442} + \text{CHF1,609}}{\text{CHF33,223}} = .67$ | |

Note to Instructor: For purposes of calculating the acid-test ratio, financial derivative assets are included in the numerator because these are similar to short-term investments.

| | | | | |
|----------------------|------------------------------------------------------------------------|--|----------------------------------------------------------------------------------|--|
| Receivables turnover | $\frac{\text{£5,384}}{\frac{\text{£1,067} + \text{£1,197}}{2}} = 4.76$ | | $\frac{\text{CHF109,908}}{\frac{\text{CHF13,442} + \text{CHF14,890}}{2}} = 7.76$ | |
| Inventory turnover | $\frac{\text{£2,870}}{\frac{\text{£767} + \text{£821}}{2}} = 3.61$ | | $\frac{\text{CHF47,339}}{\frac{\text{CHF9,342} + \text{CHF9,272}}{2}} = 5.09$ | |

COMPARATIVE ANALYSIS CASE (Continued)

(c) Nestle discusses its contingencies in the following two notes:

18. Provisions and contingencies

18.2 Contingencies

The Group is exposed to contingent liabilities amounting to a maximum potential payment of CHF 644 million (2007: CHF 1016 million) representing potential litigations of CHF 590 million (2007: CHF 956 million) and other items of CHF 54 million (2007: CHF 60 million). Contingent assets for litigation claims in favour of the Group amount to a maximum potential recoverable of CHF 296 million (2007: CHF 395 million).

25. Lease commitments

25.1 Operating leases

Lease commitments refer mainly to buildings, industrial equipment, vehicles and IT equipment.

| In millions of CHF | 2008 | 2007 |
|------------------------------------------|------------------------|--------------|
| | Minimum lease payments | Future value |
| Within one year | 609 | 559 |
| In the second year | 487 | 425 |
| In the third to the fifth year inclusive | 918 | 859 |
| After the fifth year | <u>524</u> | <u>571</u> |
| | <u>2,538</u> | <u>2,414</u> |

COMPARATIVE ANALYSIS CASE (Continued)

25.2 Finance leases

| In millions of CHF | 2008 | | 2007 | |
|------------------------------------------|------------------------|--------------|---------------|--------------|
| | Minimum lease payments | | | |
| | Present value | Future value | Present value | Future value |
| Within one year | 65 | 67 | 78 | 88 |
| In the second year | 54 | 64 | 100 | 120 |
| In the third to the fifth year inclusive | 101 | 139 | 146 | 208 |
| After the fifth year | <u>74</u> | <u>181</u> | <u>122</u> | <u>264</u> |
| | <u>294</u> | <u>451</u> | <u>446</u> | <u>680</u> |

The difference between the future value of the minimum lease payments and their present value represents the discount on the lease obligations.

Cadbury discusses its contingencies in the following two notes:

32. Leasing commitments

- (i) Group
- (a) Finance leases

| | Minimum lease payments | | Present value of minimum lease payments | |
|--------------------------------------------|------------------------|------------|-----------------------------------------|-----------|
| | 2008 | 2007 | 2008 | 2007 |
| | £m | £m | £m | £m |
| On leases expiring: | | | | |
| Within one year | 1 | 22 | 1 | 21 |
| Between one and five years | 1 | 10 | 1 | 7 |
| After five years | <u>—</u> | <u>4</u> | <u>—</u> | <u>4</u> |
| | <u>2</u> | <u>36</u> | <u>2</u> | <u>32</u> |
| Less future finance charges | <u>—</u> | <u>(4)</u> | | |
| Present value of lease obligations | <u>2</u> | <u>32</u> | | |
| Amount due for settlement within 12 months | 1 | 21 | | |
| Amount due for settlement after 12 months | 1 | 11 | | |

COMPARATIVE ANALYSIS CASE (Continued)

It is the Group's policy to lease certain of its plant and equipment under finance leases. Interest rates are fixed at the contract date. All leases are on a fixed repayment basis and no arrangements are entered into for contingent rental payments. The carrying value of the Group's lease obligations approximates their fair value.

(b) Operating leases

At the balance sheet date, the Group had outstanding commitments for future minimum lease payments under non-cancellable operating leases, which fall due as follows:

| | 2008 £m | Re-presented 2007 £m |
|----------------------------|------------|----------------------------|
| Within one year | 44 | 35 |
| Between one and five years | 140 | 104 |
| After five years | <u>94</u> | <u>98</u> |
| | <u>278</u> | <u>237</u> |

| | 2008 £m | Re-presented 2007 £m |
|-------------------------------------------------------------|------------|----------------------------|
| Operating lease expenses charged in the income statement | 45 | 53 |

(ii) Company

The Company has no lease commitments or operating leases.

COMPARATIVE ANALYSIS CASE (Continued)

33. Contingent liabilities and financial commitments.

- (a) Cadbury Holdings Limited, a subsidiary of the Company, has guaranteed borrowings and other liabilities of certain subsidiary undertakings, the amounts outstanding and recognised on the Group balance sheet at 31 December 2008 being £2,185 million (2007: £3,470 million). In addition, certain of the Company's subsidiaries have guaranteed borrowings of certain other subsidiaries. The amount covered by such arrangements at 31 December 2008 was £1,693 million (2007: £2,017 million). Payment under these guarantees would be required in the event that the relevant subsidiary was unable to pay the guaranteed borrowings when due. These guarantees cover the Group's borrowings of £2,385 million (2007: £3,714 million) and have the same maturity.**
- (b) Subsidiary undertakings have guarantees and indemnities outstanding amounting to £18 million (2007: £7 million).**
- (c) The Group has given a number of indemnities on certain disposals including the demerger of the Americas Beverages business as to the ownership of assets and intellectual property, all outstanding tax liabilities, environmental liabilities and product liability claims. These may expire over a period of time up to the local statute of limitations although for ownership of assets and intellectual property these may be indefinite. Where appropriate the Group has made provisions for any liabilities which may crystallise.**

COMPARATIVE ANALYSIS CASE (Continued)

- (d) Credit risk represents the accounting loss that would be recognised at the reporting date if counterparties failed completely to perform as contracted. Concentrations of credit risk (whether on or off balance sheet) that arise from financial instruments exist for groups of customers or counterparties when they have similar economic characteristics that would cause their ability to meet contractual obligations to be similarly affected by changes in economic or other conditions. The Group does not have a significant exposure to any individual customer, counterparty, or to any geographical region. The Group conducts business with banks representing many nationalities, in most cases through offices and branches located in London and maintains strict limits over its exposure to any individual counterparty.**
- (e) Group companies are defendants in a number of legal proceedings incidental to their operations. The Group does not expect that the outcome of such proceedings either individually or in the aggregate will have a material effect on the Group's operations, cash flows or financial position.**

FINANCIAL STATEMENT ANALYSIS CASE 1

NORTHLAND CRANBERRIES

- (a) Working capital is calculated as current assets—current liabilities, while the current ratio is calculated as current assets/current liabilities. For Northland Cranberries these ratios are calculated as follows:

| | Current year | Prior year |
|-----------------|---------------------------------------------|-------------------------------------------|
| Working capital | $\$6,745,759 - \$10,168,685 = \$-3,422,926$ | $\$5,598,054 - \$4,484,687 = \$1,113,367$ |
| Current ratio | $(\$6,745,759/\$10,168,685) = .66$ | $(\$5,598,054/\$4,484,687) = 1.25$ |

Historically, it was generally believed that a company should maintain a current ratio of at least 2.0. In recent years, because companies have been able to better maintain their inventory, receivables and cash, many healthy companies have ratios well below 2.0. However, Northland Cranberries has negative working capital in the current year, and current ratios in both years are extremely low. This would be cause for concern and additional investigation. As you will see in the next discussion point, there may well be a reasonable explanation.

- (b) This illustrates a potential problem with ratios like the current ratio, that rely on statement of financial condition numbers that present a company's financial position at a particular point in time. That point in time may not be representative of the average position of the company during the course of the year, and also, that point in time may not be the most relevant point for evaluating the financial position of the company. If the company does not like the representation that these commonly used measures give of the company's position, it could change its year-end or suggest other measures that it considers to be more relevant for a company in this business. Also, it is possible that by using averages calculated across quarterly data some of this problem might be alleviated. As discussed in Chapter 5, there are measures that employ cash flows, which addresses at least part of the point-in-time problem of statement of financial position ratios.

SUZUKI COMPANY

- (a) Under the cash basis, warranty costs are charged to expense as they are incurred; in other words, warranty costs are charged in the period in which the seller or manufacturer performs in compliance with the warranty. No liability is recorded for future costs arising from warranties, nor is the period in which the sale is recorded necessarily charged with the costs of making good on outstanding warranties.

If it is probable that customers will make claims under warranties relating to goods or services that have been sold, and a reasonable estimate of the costs involved can be made, the accrual method must be used. Under the accrual method, a provision for warranty costs is made in the year of sale or in the year that the productive activity takes place.

- (b) When the warranty is sold separately from the product, the sales warranty approach is employed. Revenue on the sale of the extended warranty is deferred and is generally recognized on a straight-line basis over the life of the contract. Revenue is deferred because the seller of the warranty has an obligation to perform services over the life of the contract.
- (c) The general approach is to use the straight-line method to recognize deferred revenue on warranty contracts. If historical evidence indicates that costs incurred do not follow a straight-line approach, then revenue should be recognized over the contract period in proportion to the costs expected to be incurred in performing services under the contract. Only costs that vary with and are directly related to the acquisition of the contracts (mainly commissions) should be deferred and amortized. Costs such as employee's salaries, advertising, and general and administrative expenses that would have been incurred even if no contract were acquired should be expensed as incurred.

FINANCIAL STATEMENT ANALYSIS CASE 3

- (a) BOP's working capital and current ratio have declined in 2010 compared to 2009. While this would appear to be bad news, the acid test ratio has improved. This is due to BOP carrying relatively more liquid receivables in 2010 (receivable days has increased.) And while working capital has declined, the amount of the operating cycle that must be financed with more costly borrowing has declined. That is, BOP is using relatively inexpensive accounts payable to finance its operating cycle. Note that the overall operating cycle has declined because inventory is being managed at a lower level (inventory days has declined by more than 60 days.)
- (b) Answers will vary depending on the companies selected. This activity is a great spreadsheet exercise. The analysis for U.S. retailers Best Buy and Circuit City is presented below.

| | Best Buy (in 000,000) | | | Circuit City (in 000) | | |
|------------------------------------|-----------------------|--------------|--------------|-----------------------|--------------|--------------|
| | 2005 | 2006 | 2007 | 2005 | 2006 | 2007 |
| Cash | \$ 470 | \$748 | 1,205 | 879,660 | 315,970 | 141,141 |
| Accounts Receivable | 375 | 449 | 548 | 230,605 | 222,869 | 382,555 |
| Inventory | 2,851 | 3,338 | 4,028 | 1,455,170 | 1,698,026 | 1,636,507 |
| Accounts Payable | 2,824 | 3,234 | 3,934 | 635,674 | 850,359 | 922,205 |
| Purchases | 20,496 | 22,432 | 31,193 | 7,618,508 | 8,765,202 | 11,137,945 |
| Cost of Goods Sold | 20,983 | 23,122 | 27,165 | 7,861,364 | 8,703,683 | 9,501,438 |
| Sales | | 30,848 | 35,934 | 10,413,524 | 11,514,151 | 12,429,754 |
| Operating Cycle | | | | | | |
| Receivable Days | | 5.3 | 5.6 | | 7.1 | 11.2 |
| Inventory Days | | <u>52.7</u> | <u>54.1</u> | | <u>71.2</u> | <u>62.9</u> |
| Operating Cycle | | 58.0 | 59.7 | | 78.3 | 74.1 |
| Less: Accounts Payable Days | | | | | | |
| | | <u>52.62</u> | <u>46.03</u> | | <u>35.41</u> | <u>30.22</u> |
| Days to be Financed | | <u>5.38</u> | <u>13.67</u> | | <u>42.89</u> | <u>43.88</u> |
| Working Capital | | \$1,301 | \$1,847 | | \$1,386,506 | \$1,237,998 |
| Current Ratio | | 1.40 | 1.47 | | 2.63 | 2.34 |
| Acid Test Ratio | | 0.37 | 0.45 | | 0.63 | 0.57 |

Best Buy reports both a lower current ratio and acid-test ratio. However, much more of Best Buy's operating cycle is financed with relatively inexpensive accounts payable as indicated by Best Buy's longer payable days. Note that circuit city declared bankruptcy in 2009.

ACCOUNTING

During 2010

| | | |
|------------------------|-------|-------|
| Warranty Expense | 6,000 | |
| Cash..... | | 6,000 |

12/31/10

| | | |
|--------------------------|--------|--------|
| Warranty Expense | 45,000 | |
| Warranty Liability | | 45,000 |

02/28/10

| | | |
|------------------------|-------|-------|
| Interest Expense | 3,333 | |
| Interest Payable..... | 1,667 | |
| Cash..... | | 5,000 |

$$€1,667 = (€200,000 \times .10) \times 1/12$$

$$€3,333 = (€200,000 \times .10) \times 2/12$$

05/31/10

| | | |
|------------------------|-------|-------|
| Interest Expense | 5,000 | |
| Cash..... | | 5,000 |

08/31/10

| | | |
|------------------------|-------|-------|
| Interest Expense | 5,000 | |
| Cash..... | | 5,000 |

11/30/10

| | | |
|------------------------|-------|-------|
| Interest Expense | 5,000 | |
| Cash..... | | 5,000 |

12/31/10

| | | |
|------------------------|-------|-------|
| Interest Expense | 1,667 | |
| Interest Payable | | 1,667 |

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

01/01/10

| | | |
|-----------------------------------|-----------|-----------|
| Manufacturing Facility (PPE)..... | 5,192,770 | |
| Cash | | 5,000,000 |
| Environmental Liability | | |
| (€500,000 X 0.38554)..... | | 192,770 |

12/31/10

| | | |
|--------------------------------|--------|--------|
| Depreciation Expense..... | 51,928 | |
| Accumulated Depreciation | | 51,928 |
| Interest Expense | 19,277 | |
| Environmental Liability | | 19,277 |

ANALYSIS

The warranty liability and the interest payable are current liabilities, so all else being equal, these will decrease both the current and acid-test ratios. Because of the commitment letter from UBS, the €200,000 loan can be classified as a non-current liability. Without this letter, YellowCard would likely not be able to demonstrate the ability to defer settlement of the liability for at least 12 months. This would mean the €200,000 loan would have to be classified as a current liability, further depressing YellowCard's current and acid-test ratios. The environmental liability can be classified as a non-current liability, so it will not affect the current and acid-test ratios.

PRINCIPLES

According to the IASB Framework, liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events. With respect to the new warranty plan, YellowCard would be currently obligated to provide repair service to its customers, arising from the prior sales of its products. So even though customers are making an upfront payment, YellowCard still has an obligation to provide services in the future. Thus the company should record the payments as unearned revenue until it is no longer obligated to make repairs. That is, the current accounting reflects application of the expense warranty approach. The new plan would be accounted for under the sales warranty approach, which defers a certain percentage of the original sales price until some future time when the company incurs actual costs or the warranty expires.

(a) IAS 37, Provisions, Contingent Liabilities and Contingent Assets.

(b) Recognizing a liability from restructuring (IAS 37, 72 – 79)

A constructive obligation to restructure arises only when an entity:

- (a) has a detailed formal plan for the restructuring identifying at least:
(i) the business or part of a business concerned; (ii) the principal locations affected; (iii) the location, function, and approximate number of employees who will be compensated for terminating their services; (iv) the expenditures that will be undertaken; and (v) when the plan will be implemented; and**
- (b) has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement that plan or announcing its main features to those affected by it.**

Evidence that an entity has started to implement a restructuring plan would be provided, for example, by dismantling plant or selling assets or by the public announcement of the main features of the plan. A public announcement of a detailed plan to restructure constitutes a constructive obligation to restructure only if it is made in such a way and in sufficient detail (ie setting out the main features of the plan) that it gives rise to valid expectations in other parties such as customers, suppliers and employees (or their representatives) that the entity will carry out the restructuring.

For a plan to be sufficient to give rise to a constructive obligation when communicated to those affected by it, its implementation needs to be planned to begin as soon as possible and to be completed in a timeframe that makes significant changes to the plan unlikely. If it is expected that there will be a long delay before the restructuring begins or that the restructuring will take an unreasonably long time, it is unlikely that the plan will raise a valid expectation on the part of others that the entity is at present committed to restructuring, because the timeframe allows opportunities for the entity to change its plans.

PROFESSIONAL RESEARCH (Continued)

A management or board decision to restructure taken before the end of the reporting period does not give rise to a constructive obligation at the end of the reporting period unless the entity has, before the end of the reporting period: (a) started to implement the restructuring plan; or (b) announced the main features of the restructuring plan to those affected by it in a sufficiently specific manner to raise a valid expectation in them that the entity will carry out the restructuring. If an entity starts to implement a restructuring plan, or announces its main features to those affected, only after the reporting period, disclosure is required under IAS 10 *Events after the Reporting Period*, if the restructuring is material and non-disclosure could influence the economic decisions that users make on the basis of the financial statements.

Although a constructive obligation is not created solely by a management decision, an obligation may result from other earlier events together with such a decision. For example, negotiations with employee representatives for termination payments, or with purchasers for the sale of an operation, may have been concluded subject only to board approval. Once that approval has been obtained and communicated to the other parties, the entity has a constructive obligation to restructure, if the conditions of paragraph 72 are met.

In some countries, the ultimate authority is vested in a board whose membership includes representatives of interests other than those of management (eg employees) or notification to such representatives may be necessary before the board decision is taken. Because a decision by such a board involves communication to these representatives, it may result in a constructive obligation to restructure.

No obligation arises for the sale of an operation until the entity is committed to the sale, ie there is a binding sale agreement.

Even when an entity has taken a decision to sell an operation and announced that decision publicly, it cannot be committed to the sale until a purchaser has been identified and there is a binding sale agreement. Until there is a binding sale agreement, the entity will be able to change its mind and indeed will have to take another course of action if a purchaser cannot be found on acceptable terms. When the sale of an operation is envisaged as part of a restructuring, the assets of the operation are reviewed for impairment, under IAS 36. When a sale is only part of a restructuring, a constructive obligation can arise for the other parts of the restructuring before a binding sale agreement exists.

PROFESSIONAL RESEARCH (Continued)

Costs to include (IAS 37, 80)

A restructuring provision shall include only the direct expenditures arising from the restructuring, which are those that are both: (a) necessarily entailed by the restructuring; and (b) not associated with the ongoing activities of the entity.

Costs to exclude (IAS 37, 81 – 82)

A restructuring provision does not include such costs as: (a) retraining or relocating continuing staff; (b) marketing; or (c) investment in new systems and distribution networks. These expenditures relate to the future conduct of the business and are not liabilities for restructuring at the end of the reporting period. Such expenditures are recognised on the same basis as if they arose independently of a restructuring.

Identifiable future operating losses up to the date of a restructuring are not included in a provision, unless they relate to an onerous contract as defined in paragraph 10.

As required by paragraph 51, gains on the expected disposal of assets are not taken into account in measuring a restructuring provision, even if the sale of assets is envisaged as part of the restructuring.

- (c) The current warranty contract is considered an onerous contract. The required accounting related to an onerous contract is in IAS 37, 81 – 82.**

If an entity has a contract that is onerous, the present obligation under the contract shall be recognised and measured as a provision.

Many contracts (for example, some routine purchase orders) can be cancelled without paying compensation to the other party, and therefore there is no obligation. Other contracts establish both rights and obligations for each of the contracting parties. Where events make such a contract onerous, the contract falls within the scope of this Standard and a liability exists which is recognised. Executory contracts that are not onerous fall outside the scope of this Standard.

PROFESSIONAL RESEARCH (Continued)

This Standard defines an onerous contract as a contract in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The unavoidable costs under a contract reflect the least net cost of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfil it.

Before a separate provision for an onerous contract is established, an entity recognises any impairment loss that has occurred on assets dedicated to that contract (see IAS 36).

Hincapie should therefore record a liability for the service contract at €75,000, the amount of the termination fee.

PROFESSIONAL SIMULATION

Journal Entries

| | | | |
|-----|-------------------------------------------------------------|---------|-------------------|
| (a) | Unearned Subscriptions Revenue | 400,000 | |
| | Subscriptions Revenue | | 400,000 |
| | (To record subscriptions earned during 2010) | | |
| | Book balance of liability account at December 31, 2010..... | | \$2,300,000 |
| | Adjusted balance (\$600,000 + \$500,000 + \$800,000) | | (1,900,000) |
| | Credit to revenue account | | <u>\$ 400,000</u> |

- (b) No entry should be made to accrue for an expense, because the absence of insurance coverage does not mean that an asset has been impaired or a liability has been incurred as of the reporting date. Appropriation of retained earnings is discussed in more detail in Chapter 15.

Note to instructor: The company may, however, appropriate retained earnings for self-insurance as long as actual costs or losses are not charged to the appropriation of retained earnings and no part of the appropriation is transferred to income. Appropriation of retained earnings and/or disclosure in the notes to the financial statements are not required, but are recommended.

| | | | |
|-----|----------------------------------------------------------------------------------|----------|---------|
| (c) | Loss from Pending Lawsuit | 540,000* | |
| | Liability from Pending Lawsuit..... | | 540,000 |
| | (To record expected value of the probable loss on breach-of-contract litigation) | | |

*\$300,000 X 40% + \$700,000 X 60% = \$540,000.

PROFESSIONAL SIMULATION (Continued)

Explanation

If a liability is expected to be settled within its normal operating cycle; or within twelve months after the reporting date, then the liability is classified as current. Current liabilities will be settled (retired, discharged, paid) by the use of a resource properly classified as a current asset or by the creation of another current liability. All other obligations are classified as noncurrent liabilities.

A company can exclude a short-term obligation from current liabilities only if the following conditions are met:

- (1) It must intend to refinance the obligation on a long-term basis, and**
- (2) It must have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.**

CHAPTER 14

Non-Current Liabilities

ASSIGNMENT CLASSIFICATION TABLE (BY TOPIC)

| Topics | Questions | Brief Exercises | Exercises | Problems | Concepts for Analysis |
|--------------------------------------------------------|-------------------------------|---------------------|--------------------------|-----------------------------|-----------------------|
| 1. Non-current liability; classification; definitions. | 1, 10, 11, 19, 20, 22, 23, 24 | | 1, 2 | 10, 11 | 1, 2, 3 |
| 2. Issuance of bonds; types of bonds. | 2, 3, 4, 9, 17 | 1, 2, 3, 4, 5, 6, 7 | 3, 4, 5, 6, 7, 8, 9, 10 | 1, 2, 3, 7, 8, 9, 10, 14 | 1, 3, 6 |
| 3. Premium and discount; amortization schedules. | 5, 6, 7, 8, 10, 17 | 3, 4, 6, 7, 8 | 4, 5, 6, 7, 8, 9, 10, 15 | 1, 2, 3, 4, 7, 8, 9, 10, 14 | 1, 2, 3, 4 |
| 4. Retirement and refunding of debt. | 18, 21 | 13 | 14, 15, 16 | 2, 7, 8, 9, 10, 14 | 3, 4, 5 |
| 5. Imputation of interest on notes. | 11, 12, 13, 14, 15 | 9, 10, 11, 12 | 11, 12, 13 | 5, 6 | |
| 6. Disclosures of non-current obligations. | 24, 25, 26 | 17 | 22 | 14 | 1, 3, 5 |
| 7. Debt extinguishment. | 16, 19, 20 | 14, 15 | 17, 18, 19, 20 | 12, 13 | 11 |
| 8. Fair value option. | 22, 23 | 16 | 21 | | |
| 9. Convergence. | 28, 29, 30 | | | | |

ASSIGNMENT CLASSIFICATION TABLE (BY LEARNING OBJECTIVE)

| Learning Objectives | Brief Exercises | Exercises | Problems |
|-------------------------------------------------------------------------------|------------------------|-------------------------------------|--------------------------------|
| 1. Describe the formal procedures associated with issuing long-term debt. | | | |
| 2. Identify various types of bond issues. | | 1, 2 | |
| 3. Describe the accounting valuation for bonds at date of issuance. | 1, 2, 3, 4, 5, 6, 7, 8 | 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16 | 1, 2, 3, 7, 8, 9, 10, 14 |
| 4. Apply the methods of bond discount and premium amortization. | 2, 3, 4, 5, 6, 7, 8 | 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16 | 1, 2, 3, 4, 7, 8, 9, 10, 14 |
| 5. Explain the accounting for long-term notes payable. | 9, 10, 11, 12 | 11, 12, 13 | 5, 6 |
| 6. Describe the accounting for the extinguishment of non-current liabilities. | 13, 14, 15 | 14, 15, 16, 17, 18, 19, 20 | 2, 7, 8, 9, 10, 11, 12, 13, 14 |
| 7. Describe the accounting for the fair value option. | 16 | 21 | |
| 8. Explain the reporting of off-balance-sheet financing arrangements. | | | |
| 9. Indicate how to present and analyze non-current liabilities. | 17 | 22 | 14 |

ASSIGNMENT CHARACTERISTICS TABLE

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|-------------------------------------------------------------------------------|---------------------|----------------|
| E14-1 | Classification of liabilities. | Simple | 15–20 |
| E14-2 | Classification. | Simple | 15–20 |
| E14-3 | Entries for bond transactions. | Simple | 15–20 |
| E14-4 | Entries for bond transactions. | Simple | 15–20 |
| E14-5 | Entries for bond transactions. | Simple | 15–20 |
| E14-6 | Amortization schedule. | Simple | 15–20 |
| E14-7 | Determine proper amounts in account balances. | Moderate | 15–20 |
| E14-8 | Entries and questions for bond transactions. | Moderate | 20–30 |
| E14-9 | Entries for bond transactions. | Moderate | 15–20 |
| E14-10 | Information related to various bond issues. | Simple | 20–30 |
| E14-11 | Entries for zero-interest-bearing notes. | Simple | 15–20 |
| E14-12 | Imputation of interest. | Simple | 15–20 |
| E14-13 | Imputation of interest with right. | Moderate | 15–20 |
| E14-14 | Entry for retirement of bond; bond issue costs. | Simple | 20–25 |
| E14-15 | Entries for retirement and issuance of bonds. | Simple | 12–16 |
| E14-16 | Entries for retirement and issuance of bonds. | Simple | 10–15 |
| E14-17 | Settlement of debt. | Moderate | 15–20 |
| E14-18 | Loan modification. | Moderate | 20–30 |
| E14-19 | Loan modification. | Moderate | 25–30 |
| E14-20 | Entries for settlement of debt. | Moderate | 20–25 |
| E14-21 | Fair value option. | Moderate | 20–25 |
| E14-22 | Long-term debt disclosure. | Simple | 10–15 |
| P14-1 | Analysis of amortization schedule and interest entries. | Simple | 15–20 |
| P14-2 | Issuance and retirement of bonds. | Moderate | 25–30 |
| P14-3 | Negative amortization. | Moderate | 20–30 |
| P14-4 | Effective-interest method. | Moderate | 40–50 |
| P14-5 | Entries for zero-interest-bearing note. | Simple | 15–25 |
| P14-6 | Entries for zero-interest-bearing note; payable in installments. | Moderate | 20–25 |
| P14-7 | Issuance and retirement of bonds; income statement presentation. | Simple | 15–20 |
| P14-8 | Comprehensive bond problem. | Moderate | 50–65 |
| P14-9 | Issuance of bonds between interest dates, retirement. | Moderate | 20–25 |
| P14-10 | Entries for life cycle of bonds. | Moderate | 20–25 |
| P14-11 | Modification of debt. | Moderate | 15–20 |
| P14-12 | Modification of note under different circumstances. | Moderate | 25–35 |
| P14-13 | Debtor/creditor entries for continuation of debt with new effective interest. | Moderate | 20–30 |
| P14-14 | Comprehensive problem; issuance, classification, reporting. | Moderate | 20–25 |

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

| Item | Description | Level of Difficulty | Time (minutes) |
|--------|-------------------------------------------------------------------------------------|---------------------|----------------|
| CA14-1 | Bond theory: statement of financial position presentations, interest rate, premium. | Moderate | 25–30 |
| CA14-2 | Various non-current liability conceptual issues. | Moderate | 10–15 |
| CA14-3 | Bond theory: price, presentation, and retirement. | Moderate | 15–25 |
| CA14-4 | Bond theory: amortization and gain or loss recognition. | Simple | 20–25 |
| CA14-5 | Off-balance-sheet financing. | Moderate | 20–30 |
| CA14-6 | Bond issue (ethics.) | Moderate | 23–30 |

ANSWERS TO QUESTIONS

1. (a) Funds might be obtained through long-term debt from the issuance of bonds, and from the signing of long-term notes and mortgages.
(b) A bond indenture is a contractual agreement (signed by the issuer of bonds) between the bond issuer and the bondholders. The bond indenture contains covenants or restrictions for the protection of the bondholders.
(c) A mortgage is a document which describes the security for a loan, indicates the conditions under which the mortgage becomes effective (that is, conditions of default), and describes the rights of the mortgagee under default relative to the security. The mortgage accompanies a formal promissory note and becomes effective only upon default of the note.
2. If the entire bond matures on a single date, the bonds are referred to as **term bonds**. **Mortgage bonds** are secured by real estate. **Collateral trust bonds** are secured by the securities of other corporations. **Debenture bonds** are unsecured. The interest payments for **income bonds** depend on the existence of operating income in the issuing company. **Callable bonds** may be called and retired by the issuer prior to maturity. **Registered bonds** are issued in the name of the owner and require surrender of the certificate and issuance of a new certificate to complete the sale. A **bearer** or **coupon bond** is not recorded in the name of the owner and may be transferred from one investor to another by mere delivery. **Convertible bonds** can be converted into other securities of the issuing corporation for a specified time after issuance. **Commodity-backed bonds** (also called asset-linked bonds) are redeemable in measures of a commodity. **Deep-discount bonds** (also called zero-interest bonds) are sold at a discount which provides the buyer's total interest payoff at maturity.
3. (a) Yield rate—the rate of interest actually earned by the bondholders; it is synonymous with the effective and market rates.
(b) Nominal rate—the rate set by the party issuing the bonds and expressed as a percentage of the par value; it is synonymous with the stated rate.
(c) Stated rate—synonymous with nominal rate.
(d) Market rate—synonymous with yield rate and effective rate.
(e) Effective rate—synonymous with market rate and yield rate.
4. (a) Maturity value—the face value of the bonds; the amount which is payable upon maturity.
(b) Face value—synonymous with par value and maturity value.
(c) Market value—the amount realizable upon sale.
(d) Par value—synonymous with maturity and face value.
5. A discount on bonds payable results when investors demand a rate of interest higher than the rate stated on the bonds. The investors are not satisfied with the nominal interest rate because they can earn a greater rate on alternative investments of equal risk. They refuse to pay par for the bonds and cannot change the nominal rate. However, by lowering the amount paid for the bonds, investors can alter the effective rate of interest. A premium on bonds payable results from the opposite conditions. That is, when investors are satisfied with a rate of interest lower than the rate stated on the bonds, they are willing to pay more than the face value of the bonds in order to acquire them, thus reducing their effective rate of interest below the stated rate.

Questions Chapter 14 (Continued)

6. The amortization of a bond premium decreases interest expense while the amortization of a bond discount increases interest expense over the life of a bond.
7. Bond discount and bond premium are amortized on an effective-interest basis. The effective-interest method results in an increasing or decreasing amount of interest each period. This is because interest is based on the carrying amount of the bond issuance at the beginning of each period. The effective-interest method results in an increasing or decreasing dollar amount of interest and a constant rate of interest over the life of the bonds. The difference between the interest expense and the interest paid is the amount of discount or premium amortized each period.
8. The annual interest expense will decrease each period throughout the life of the bonds. Under the effective-interest method the interest expense each period is equal to the effective or yield interest rate times the book value of the bonds at the beginning of each interest period. When bonds are sold at a premium, their book value declines to face value over their life; therefore, the interest expense declines also.
9. Bond issuance costs should be recorded as a reduction to the issue amount of the bond payable and amortized into expense over the life of the bond, through an adjustment to the effective-interest rate.
10. Amortization of bond discount will increase interest expense. A discount on bonds payable results when investors demand a rate of interest higher than the rate stated on the bonds. The investors are not satisfied with the nominal interest rate because they can earn a greater rate on alternative investments of equal risk. They refuse to pay par for the bonds and cannot change the nominal rate. However, by lowering the amount paid for the bonds, investors can increase the effective rate of interest.
11. The entire arrangement must be evaluated and an appropriate interest rate imputed. This is done by (1) determining the fair value of the property, goods, or services exchanged or (2) determining the fair value of the note, whichever is more clearly determinable.
12. If a note is issued for cash, the present value is assumed to be the cash proceeds. If a note is issued for noncash consideration, the present value of the note should be measured by the fair value of the property, goods, or services or by an amount that reasonably approximates the fair value of the note (whichever is more clearly determinable).
13. When a debt instrument is exchanged in a bargained transaction entered into at arm's length, the stated interest rate is presumed to be fair unless: (1) no interest rate is stated, or (2) the stated interest rate is unreasonable, or (3) the stated face amount of the debt instrument is materially different from the current sales price for the same or similar items or from the current fair value of the debt instrument.
14. Imputed interest is the interest factor (a rate or amount) assumed or assigned which is different from the stated interest factor. It is necessary to impute an interest rate when the stated interest rate is presumed to be unreasonable. The imputed interest rate is used to establish the present value of the debt instrument by discounting, at that imputed rate, all future payments on the debt instrument.

Questions Chapter 14 (Continued)

Note to instructor: In imputing interest, the objective is to approximate the rate which would have resulted if an independent borrower and an independent lender had negotiated a similar transaction under comparable terms and conditions with the option to pay the cash price upon purchase or to give a note for the amount of the purchase which bears the prevailing rate of interest to maturity. In order to accomplish that objective, consideration must be given to (1) the credit standing of the issuer, (2) restrictive covenants, (3) collateral, (4) payment and other items pertaining to the debt, (5) the existing prime interest rate, and (6) the prevailing rates for similar instruments of issuers with similar credit ratings.

15. A **fixed-rate mortgage** is a note that requires payment of interest by the mortgagor at a rate that does not change during the life of the note. A **variable-rate mortgage** is a note that features an interest rate that fluctuates with the market rate; the variable rate generally is adjusted periodically as specified in the terms of the note and is usually limited in the amount of each change in the rate up or down and in the total change that can be made in the rate.
16. Three different types of situations result with extinguishments (1) Settlement with cash; (2) Exchanging assets or securities; and (3) Modification of terms.
17. The call feature of a bond issue grants the issuer the privilege of purchasing, after a certain date at a stated price, outstanding bonds for the purpose of reducing indebtedness or taking advantage of lower interest rates. The call feature does not affect the amortization of bond discount or premium; because early redemption is not a certainty, the life of the bonds should be used for amortization purposes.
18. It is sometimes desirable to reduce bond indebtedness in order to take advantage of lower prevailing interest rates. Also the company may not want to make a very large cash outlay all at once when the bonds mature.

Bond indebtedness may be reduced by either issuing bonds callable after a certain date and then calling some or all of them, or by purchasing bonds on the open market and then retiring them.

When a portion of bonds outstanding is going to be retired, it is necessary for the accountant to make sure any corresponding discount or premium is properly amortized. When the bonds are extinguished, any gain or loss should be reported as other income and expense.

19. A transfer of noncash assets (real estate, receivables, or other assets) or the issuance of the debtor's stock can be used to settle a debt obligation in an extinguishment. In these situations, the noncash assets or equity interest given should be accounted for at their fair value. The debtor is required to determine the excess of the carrying amount of the payable over the fair value of the assets or equity transferred (gain). The debtor recognizes a gain equal to the amount of the excess. In addition, the debtor recognizes a gain or loss on disposition of assets to the extent that the fair value of those assets differs from their carrying amount (book value).
20. (a) The creditor will grant concessions in debt modification situation because it appears to be the more likely way to ensure the highest possible collection on the loan.

(b) The creditor might grant any one or a combination of the following concessions:
 1. Reduce the face amount of the debt.
 2. Accept noncash assets or equity interests in lieu of cash in settlement.
 3. Reduce the stated interest rate.
 4. Extend the maturity date of the face amount of the debt.
 5. Reduce or defer any accrued interest.

Questions Chapter 14 (Continued)

21. The debtor will record a gain when the discounted restructured cash flows are less than the carrying value of the loan. If a gain is recognized, the modified note is recorded at its fair value. Subsequent payments will include a charge to Interest Expense based on the market-interest rate.
22. The fair value option gives companies the choice to record their non-current liabilities at fair value. The controversy in applying the fair value option involves companies recording an unrealized gain when its credit worthiness is becoming worse. This decline results in the fair value of the debt declining resulting in an unrealized gain.
23. Unrealized Holding Gain or Loss-Income..... 2,600
 Note Payable (€22,600 – €20,000)..... 2,600
24. The required disclosures at the statement of financial position date are future payments for sinking fund requirements and the maturity amounts of long-term debt during each of the next five years.
25. Off-balance-sheet financing is an attempt to borrow monies in such a way that the obligations are not recorded. Reasons for off-balance-sheet financing are:
- (1) Many believe removing debt enhances the quality of the statement of financial position and permits credit to be obtained more readily and at less cost.
 - (2) Loan covenants are less likely to be violated.
 - (3) The asset side of the statement of financial position is understated because fair value is not used for many assets. As a result, not reporting certain debt transactions offsets the nonrecognition of fair values on certain assets.
26. Forms of off-balance-sheet financing include (1) investments in non-consolidated subsidiaries for which the parent is liable for the subsidiary debt; (2) use of special purpose entities (SPEs), which are used to borrow money for special projects (resulting in take-or-pay contracts); (3) operating leases, which when structured carefully give the company the benefits of ownership without reporting the liability for the lease payments.
27. Under IFRS, a parent company does not have to consolidate a subsidiary company that is less than 50 percent owned. In such cases, the parent therefore does not report the assets and liabilities of the subsidiary. All the parent reports on its statement of financial position is the investment in the subsidiary. As a result, users of the financial statements may not understand that the subsidiary has considerable debt for which the parent may ultimately be liable if the subsidiary runs into financial difficulty.
28. Among the similarities are: (1) Both IFRS and U.S. GAAP require that companies indicate the current portion of long-term debt, (2) Both IFRS prohibit the recognition of liabilities for future losses; and (3) IFRS and U.S. GAAP are similar in the treatment of environmental liabilities.

Questions Chapter 14 (Continued)

Although the two IFRS are similar with respect to above topics, there are differences, including: (1) Under IFRS, the measurement of a provision related to a contingency is based on the best estimate of the expenditure required to settle the obligation. If a range of estimates is predicted and no amount in the range is more likely than any other amount in the range, the 'mid-point' of the range is used to measure the liability. In U.S. GAAP, the minimum amount in a range is used; (2) IFRS permits recognition of a restructuring liability, once a company has committed to a restructuring plan. U.S. GAAP has additional criteria (i.e., related to communicating the plan to employees), before a restructuring liability can be established; and (3) the recognition criteria for an asset requirement obligation are more stringent under U.S. GAAP—the liability is not recognized unless there is a present legal obligation and the fair value of the obligation can be reasonably estimated.

| | | | |
|---------|----------------------------------------------------|---------|---------|
| 29. (1) | Cash | 92,608 | |
| | Bond Discount | 7,392 | |
| | Bonds Payable | | 100,000 |
| (2) | Interest Expense (\$92,608 X 11%) | 10,187 | |
| | Cash (\$100,000 X 9%) | | 9,000 |
| | Bond Discount | | 1,187 |
| (3) | Bonds Payable | 100,000 | |
| | Loss on Extinguishment of Bonds | 5,888 | |
| | Cash (\$100,000 X 101%) | | 101,000 |
| | Bond Discount (\$7,392 – \$1,187 – \$1,317*) | | 4,888 |

$$*[(\$92,608 + \$1,187) \times 11\%] - \$9,000$$

30. As indicated in the Convergence Corner of Chapter 2, the IASB and FASB are working on a conceptual framework project, part of which will examine the definition of a liability. In addition, this project will address the difference in measurements used between IFRS and U.S. GAAP for contingent liabilities.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 14-1

| | | |
|----------------------------------------|----------------|------------------|
| Present value of the principal | | |
| \$500,000 X .37689..... | \$188,445 | |
| Present value of the interest payments | | |
| \$22,500 X 12.46221 | <u>280,400</u> | |
| Issue price | | <u>\$468,845</u> |

BRIEF EXERCISE 14-2

| | | | |
|-----|-----------------------------------|---------|---------|
| (a) | Cash..... | 300,000 | |
| | Bonds Payable | | 300,000 |
| (b) | Interest Expense..... | 15,000 | |
| | Cash (€300,000 X 10% X 6/12)..... | | 15,000 |
| (c) | Interest Expense..... | 15,000 | |
| | Interest Payable | | 15,000 |

BRIEF EXERCISE 14-3

| | | | |
|-----|----------------------------------------------|---------|---------|
| (a) | Cash (€300,000 X 1.0811) | 324,330 | |
| | Bonds Payable | | 324,330 |
| (b) | Interest Expense (€324,330 X 8% X 6/12)..... | 12,973 | |
| | Bonds Payable | 2,027 | |
| | Cash (€300,000 X 10% X 6/12)..... | | 15,000 |
| (c) | Interest Expense | | |
| | (€324,330 – €2,027) X 8% X 6/12 | 12,892 | |
| | Bonds Payable | 2,108 | |
| | Interest Payable | | 15,000 |

BRIEF EXERCISE 14-4

| | | | |
|-----|-----------------------------------------------------------------------------|---------|---------|
| (a) | Cash ($€300,000 \times .926393$) | 277,918 | |
| | Bonds Payable | | 277,918 |
| (b) | Interest Expense ($€277,918 \times 12\% \times 6/12$) | 16,675 | |
| | Bonds Payable | | 1,675 |
| | Cash ($€300,000 \times 10\% \times 6/12$) | | 15,000 |
| (c) | Interest Expense ($€277,918 + €1,675$) $\times 12\% \times 6/12$ | 16,776 | |
| | Bonds Payable | | 1,776 |
| | Interest Payable | | 15,000 |

BRIEF EXERCISE 14-5

| | | | |
|-----|--------------------------------------------------------------------------|---------|---------|
| (a) | Cash | 408,000 | |
| | Bonds Payable | | 400,000 |
| | Interest Expense ($£400,000 \times 6\% \times 4/12 = £8,000$) | | 8,000 |
| (b) | Interest Expense | 12,000 | |
| | Cash ($£400,000 \times 6\% \times 6/12 = £12,000$) | | 12,000 |
| (c) | Interest Expense | 12,000 | |
| | Interest Payable | | 12,000 |

BRIEF EXERCISE 14-6

| | | | |
|-----|---------------------------------------------------------------|---------|---------|
| (a) | Cash | 559,224 | |
| | Bonds Payable | | 559,224 |
| (b) | Interest Expense ($\$559,224 \times 8\% \times 6/12$) | 22,369 | |
| | Cash ($\$600,000 \times 7\% \times 6/12$) | | 21,000 |
| | Bonds Payable | | 1,369 |

BRIEF EXERCISE 14-6 (Continued)

| | | | |
|-----|----------------------------------------------------------|--------|--------|
| (c) | Interest Expense | | |
| | [($\$560,593 \times 8\% \times 6/12 = \$22,424$)]..... | 22,424 | |
| | Interest Payable | | 21,000 |
| | Bonds Payable | | 1,424 |

BRIEF EXERCISE 14-7

| | | | |
|-----|---------------------|-------------|-------------|
| (a) | Cash..... | 644,636,000 | |
| | Bonds Payable | | 644,636,000 |

| | | | |
|-----|-------------------------------------------------------|------------|------------|
| (b) | Interest Expense..... | 19,339,000 | |
| | Bonds Payable | 1,661,000 | |
| | Cash | | 21,000,000 |
| | ($\$644,636 \times 6\% \times 6/12 = \$19,339,000$) | | |
| | ($\$600,000 \times 7\% \times 6/12 = \$21,000,000$) | | |

| | | | |
|-----|---------------------------------------------------------|--------|--------|
| (c) | Interest Expense | | |
| | ($\$642,975 \times 6\% \times 6/12 = \$19,289$) | 19,289 | |
| | Bonds Payable | 1,711 | |
| | Interest Payable | | 21,000 |

BRIEF EXERCISE 14-8

| | | |
|------------------------|------------|-------------|
| Interest Expense | 6,446,360* | |
| Bonds Payable | 553,640 | |
| Interest Payable..... | | 7,000,000** |

* $\text{HK\$}644,636,000 \times 6\% \times 2/12 = \text{HK\$}6,446,360$

** $\text{HK\$}600,000,000 \times 7\% \times 2/12 = \text{HK\$}7,000,000$

BRIEF EXERCISE 14-9

| | | | |
|-----|---------------------------------------------------|---------|---------|
| (a) | Cash | 100,000 | |
| | Notes Payable | | 100,000 |
| (b) | Interest Expense | 10,000 | |
| | Cash ($\$100,000 \times 10\% = \$10,000$) | | 10,000 |

BRIEF EXERCISE 14-10

| | | | |
|-----|----------------------------|--------|--------|
| (a) | Cash | 47,664 | |
| | Notes Payable | | 47,664 |
| (b) | Interest Expense | 5,720 | |
| | Notes Payable | | 5,720 |
| | ($\$47,664 \times 12\%$) | | |

BRIEF EXERCISE 14-11

| | | | |
|-----|--------------------------------------|--------|--------|
| (a) | Computer | 31,495 | |
| | Notes Payable | | 31,495 |
| (b) | Interest Expense | 3,779 | |
| | Cash | | 2,000 |
| | Notes Payable | | 1,779 |
| | ($\$31,495 \times 12\% = \$3,779$) | | |
| | ($\$40,000 \times 5\% = \$2,000$) | | |

BRIEF EXERCISE 14-12

| | | |
|------------------------------------------------------------|--------|--------|
| Cash | 60,000 | |
| Notes Payable | | 38,131 |
| Unearned Revenue | | |
| [$\$60,000 - (\$60,000 \times .63552) = \$21,869$] | | 21,869 |

BRIEF EXERCISE 14-13

| | | |
|-----------------------------------|---------|---------|
| Bonds Payable | 515,000 | |
| Gain on Redemption of Bonds | | 20,000 |
| Cash | | 495,000 |

BRIEF EXERCISE 14-14

| | | |
|--------------------------------------|---------|--------|
| Notes Payable | 100,000 | |
| Share Capital—Ordinary | | 20,000 |
| Share Premium—Ordinary | | |
| (\$4.75 – \$1) X 20,000 | | 75,000 |
| Gain on Extinguishment of Debt | | 5,000 |

BRIEF EXERCISE 14-15

(a) Present value of restructured cash flows:

Present value of principal \$90,000 due in

4 years at 12% ($\$90,000 \times .63552$) \$ 57,197

Present value of interest \$7,200 paid annually

for 4 years at 12% ($\$7,200 \times 3.03735$)..... 21,869

Fair value of note..... \$ 79,066

Notes Payable (Old)..... 100,000

Gain on Extinguishment of Debt 20,934

Note Payable (New)..... 79,066

(b) Interest Expense..... 9,488*

Cash ($\$90,000 \times 8\%$)..... 7,200

Note Payable 2,288

* $\$79,066 \times 12\%$

BRIEF EXERCISE 14-16

| | | | |
|-----|--------------------------------------------------------|-------|-------|
| (a) | Unrealized loss = \$17,500 – \$16,000 = <u>\$1,500</u> | | |
| (b) | Unrealized Holding Gain or Loss—Income..... | 1,500 | |
| | Note Payable..... | | 1,500 |

BRIEF EXERCISE 14-17

Non-current liabilities

| | |
|-----------------------------------------|-------------|
| Bonds Payable, due January 1, 2019..... | \$1,912,000 |
| Current liabilities | |
| Bond Interest Payable..... | \$ 80,000 |

SOLUTIONS TO EXERCISES

EXERCISE 14-1 (15–20 minutes)

- (a) Current liability if current assets are used to satisfy the debt.**
- (b) Current liability, \$250,000; long-term liability, \$750,000.**
- (c) Current liability.**
- (d) Probably non-current, although if operating cycle is greater than one year and current assets are used, this item would be classified as current.**
- (e) Current liability.**
- (f) Current liability unless (a) a fund for liquidation has been accumulated which is not classified as a current asset or (b) arrangements have been made for refinancing.**
- (g) Current liability.**
- (h) Current liability.**

EXERCISE 14-2 (15–20 minutes)

- (a) Interest expense (credit balance)—Reclassify to interest payable on statement of financial position.**
- (b) Bond Issue Costs—Reduction of the issue amount of the bond payable.**
- (c) Gain on repurchase of debt—Classify as part of Other income and expense on the income statement.**
- (d) Mortgage payable—Classify one-third as current liability and the remainder as long-term liability on statement of financial position.**
- (e) Debenture bonds payable—Classify as long-term liability on statement of financial position.**
- (f) Notes payable—Classify as long-term liability on statement of financial position.**
- (g) Income bonds payable—Classify as long-term liability on statement of financial position.**

EXERCISE 14-3 (15–20 minutes)

1. Divac Company:

| | | | | |
|-----|----------|--------------------------------------------------|---------|---------|
| (a) | 1/1/10 | Cash..... | 300,000 | |
| | | Bonds Payable | | 300,000 |
| (b) | 7/1/10 | Interest Expense (€300,000 X 9% X 3/12) | 6,750 | |
| | | Cash..... | | 6,750 |
| (c) | 12/31/10 | Interest Expense..... | 6,750 | |
| | | Interest Payable | | 6,750 |

2. Verbitsky Company:

| | | | | |
|-----|----------|---------------------------------------------------|---------|---------|
| (a) | 6/1/10 | Cash..... | 210,000 | |
| | | Bonds Payable | | 200,000 |
| | | Interest Expense (€200,000 X 12% X 5/12) | | 10,000 |
| (b) | 7/1/10 | Interest Expense..... | 12,000 | |
| | | Cash (€200,000 X 12% X 6/12) ... | | 12,000 |
| (c) | 12/31/10 | Interest Expense..... | 12,000 | |
| | | Interest Payable | | 12,000 |

Note to instructor: Some students may credit Interest Payable on 6/1/10. If they do so, the entry on 7/1/10 will have a debit to Interest Payable for €10,000 and a debit to Interest Expense for €2,000.

EXERCISE 14-4 (15–20 minutes)

| | | | | |
|-----|----------|-----------------------------------------|---------|---------|
| (a) | 1/1/11 | Cash (\$800,000 X 1.19792)..... | 958,336 | |
| | | Bonds Payable..... | | 958,336 |
| (b) | 7/1/11 | Interest Expense | | |
| | | (\$958,336 X 8% X 6/12)..... | 38,333 | |
| | | Bonds Payable | 1,667 | |
| | | Cash (\$800,000 X 10% X 6/12)..... | | 40,000 |
| (c) | 12/31/11 | Interest Expense | | |
| | | (\$958,336 – \$1,667) X 8% X 6/12 | 38,267 | |
| | | Bonds Payable | 1,733 | |
| | | Interest Payable..... | | 40,000 |

EXERCISE 14-5 (15–20 minutes)

| | | | | |
|-----|----------|------------------------------------------|---------|---------|
| (a) | 1/1/11 | Cash (\$800,000 X .8495)..... | 679,600 | |
| | | Bonds Payable | | 679,600 |
| (b) | 7/1/11 | Interest Expense | | |
| | | (\$679,600 X 12% X 1/2)..... | 40,776 | |
| | | Bonds Payable..... | | 776 |
| | | Cash (\$800,000 X 10% X 6/12)..... | | 40,000 |
| (c) | 12/31/11 | Interest Expense | | |
| | | [(\$679,600 + \$776) X 12% X 1/2]..... | 40,823 | |
| | | Bonds Payable..... | | 823 |
| | | Interest Payable..... | | 40,000 |

EXERCISE 14-6 (15–20 minutes)

The effective-interest or yield rate is 12%. It is determined through trial and error using Table 6-2 for the discounted value of the principal (£1,702,290) and Table 6-4 for the discounted value of the interest (£1,081,434); £1,702,290 plus £1,081,434 equals the proceeds of £2,783,724. (A financial calculator may be used to determine the rate of 12%.)

**Schedule of Discount Amortization
Effective-Interest Method (12%)**

| Year | Cash Paid | Interest Expense | Discount Amortized | Carrying Amount of Bonds |
|---------------|-----------|------------------|--------------------|--------------------------|
| (1) | (2) | (3) | (4) | |
| Jan. 1, 2010 | — | — | — | £2,783,724.00 |
| Dec. 31, 2010 | £300,000 | £334,046.88* | £34,046.88 | 2,817,770.88 |
| Dec. 31, 2011 | 300,000 | 338,132.51 | 38,132.51 | 2,855,903.39 |
| Dec. 31, 2012 | 300,000 | 342,708.41 | 42,708.41 | 2,898,611.80 |
| Dec. 31, 2013 | 300,000 | 347,833.42 | 47,833.42 | 2,946,445.22 |
| Dec. 31, 2014 | 300,000 | 353,554.78** | 53,554.78 | 3,000,000.00 |

*£334,046.88 = £2,783,724 X .12.

**Rounded.

EXERCISE 14-7 (15–20 minutes)

(a) Bond selling price (\$2,500,000 X 1.06231)..... \$ 2,655,775

July 1, 2010

Interest expense reported (\$2,655,775 X 10% X 6/12) \$ 132,789

December 31, 2010

Interest expense reported

[((\$2,500,000 X .11 X 6/12) X 10% X 6/12)..... \$ 132,553*

*((\$2,655,775 – \$132,789)

EXERCISE 14-7 (Continued)

| | | |
|-----------------------------------------------------------------------------------------------|---------------|-------------------|
| (b) | June 30, 2010 | |
| Carrying amount of bonds..... | | \$562,500 |
| Effective-interest rate for the period from June 30 to October 31, 2010 (.10 X 4/12) | | <u>X.033333</u> |
| Interest expense to be recorded on October 31, 2010 | | <u>\$ 18,750*</u> |

*Alternative computation: $\$562,500 \times .10 \times 4/12$

| | | |
|-----------------------------------------------------------------------|-----------------|---------|
| (c) | October 1, 2010 | |
| Cash ($\$853,382 + \$72,000$)..... | 925,382 | |
| Bonds payable | | 853,382 |
| Bond Interest Expense ($\$800,000 \times 12\% \times 9/12$)..... | | 72,000 |

| | | |
|----------------------------------------|-------------------|--------|
| | December 31, 2010 | |
| Bond Interest Expense..... | 93,335 | |
| Bonds Payable | 2,665* | |
| Cash ($\$800,000 \times 12\%$) | | 96,000 |

*($\$800,000 \times 12\%$) – $\$72,000 = \$24,000$ net cash paid
(21,335) interest expense
 $\$853,382 \times 10\% \times 3/12$
\$2,665 premium amortized

EXERCISE 14-8 (20–30 minutes)

| | | | | |
|-----|-----|----------------------------------|-----------|-----------|
| (a) | (1) | June 30, 2010 | | |
| | | Cash..... | 5,376,150 | |
| | | Bonds Payable | | 5,376,150 |
| | | | | |
| (2) | | December 31, 2010 | | |
| | | Interest Expense | | |
| | | (\$5,376,150 X 12% X 6/12) | 322,569 | |
| | | Bonds Payable | 2,431 | |
| | | Cash | | |
| (3) | | (\$5,000,000 X 13% X 6/12)..... | | 325,000 |
| | | June 30, 2011 | | |
| | | Interest Expense | | |
| | | [((\$5,376,150 – \$2,431) | | |
| | | X 12% X 6/12] | 322,423 | |
| (4) | | Bonds Payable | 2,577 | |
| | | Cash | | 325,000 |
| | | December 31, 2011 | | |
| | | Interest Expense | | |
| | | [((\$5,376,150 – \$2,431 – | | |
| (4) | | \$2,577) X 12% X 6/12] | 322,268 | |
| | | Bonds Payable | 2,732 | |
| | | Cash | | 325,000 |

EXERCISE 14-8 (Continued)

(b) Non-current Liabilities:

| | |
|------------------------------------------------|---------------------|
| Bonds payable, 13% (due on June 30, 2030)..... | <u>\$5,368,410*</u> |
|------------------------------------------------|---------------------|

*\$5,376,150 – (\$2,431 + \$2,577 + \$2,732) = \$5,368,410

| | |
|---------------------------------------------------------------------------------------------|---------------------|
| (c) (1) Interest expense for the period from January 1 to June 30, 2011 from (a) 3. | \$ 322,423 |
| Interest expense for the period from July 1 to December 31, 2011 from (a) 4. | <u>322,268</u> |
| Amount of bond interest expense reported for 2011 | <u>\$ 644,691</u> |
| (2) Total interest to be paid for the bond (\$5,000,000 X 13% X 20) | \$13,000,000 |
| Less: Premium | <u>376,150</u> |
| Total cost of borrowing over the life of the bond | <u>\$12,623,850</u> |

EXERCISE 14-9 (15–20 minutes)**(a) January 1, 2010**

| | | |
|--------------------|------------|------------|
| Cash | 860,651.79 | |
| Bonds Payable..... | | 860,651.79 |

(b) Schedule of Interest Expense and Bond Premium Amortization
Effective-Interest Method
12% Bonds Sold to Yield 10%

| Date | Cash Paid | Interest Expense | Premium Amortized | Carrying Amount of Bonds |
|----------|--------------|---------------------|----------------------|--------------------------------|
| 1/1/10 | — | — | — | £860,651.79 |
| 12/31/10 | £96,000.00 | £86,065.18 | £ 9,934.82 | 850,716.97 |
| 12/31/11 | 96,000.00 | 85,071.70 | 10,928.30 | 839,788.67 |
| 12/31/12 | 96,000.00 | 83,978.87 | 12,021.13 | 827,767.54 |

(c) December 31, 2010

| | | |
|------------------------|-----------|-----------|
| Interest Expense | 86,065.18 | |
| Bonds Payable | 9,934.82 | |
| Cash | | 96,000.00 |

(d) December 31, 2012

| | | |
|------------------------|-----------|-----------|
| Interest Expense | 83,978.87 | |
| Bonds Payable | 12,021.13 | |
| Cash | | 96,000.00 |

EXERCISE 14-10 (20–30 minutes)

| | Unsecured Bonds | Zero-Coupon Bonds | Mortgage Bonds |
|--------------------------------|-----------------------------|----------------------------|-----------------------------|
| (1) Maturity value | \$10,000,000 | \$25,000,000 | \$15,000,000 |
| (2) Number of interest periods | 40 | 10 | 10 |
| (3) Stated rate per period | 3.25% ($\frac{13\%}{4}$) | 0 | 10% |
| (4) Effective rate per period | 3% ($\frac{12\%}{4}$) | 12% | 12% |
| (5) Payment amount per period | \$325,000 ^(a) | 0 | \$ 1,500,000 ^(b) |
| (6) Present value | \$10,577,900 ^(c) | \$8,049,250 ^(d) | \$13,304,880 ^(e) |

^(a)\$10,000,000 X 13% X 1/4 = \$325,000

^(b)\$15,000,000 X 10% = \$1,500,000

^(c)Present value of an annuity of \$325,000 discounted at 3% per period for 40 periods (\$325,000 X 23.11477) \$ 7,512,300
 Present value of \$10,000,000 discounted at 3% per period for 40 periods (\$10,000,000 X .30656)..... 3,065,600
\$10,577,900

^(d)Present value of \$25,000,000 discounted at 12% for 10 periods (\$25,000,000 X .32197)..... \$ 8,049,250

^(e)Present value of an annuity of \$1,500,000 discounted at 12% for 10 periods (\$1,500,000 X 5.65022)..... \$ 8,475,330
 Present value of \$15,000,000 discounted at 12% for 10 years (\$15,000,000 X .32197)..... 4,829,550
\$13,304,880

EXERCISE 14-11 (15–20 minutes)

| | | | |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|
| (a) 1. | | January 1, 2011 | |
| | Land | 300,000 | |
| | Notes Payable | | 300,000 |
| | (The \$300,000 capitalized land cost represents the present value of the note discounted for five years at 11%.) | | |
| 2. Equipment..... | | 297,079* | |
| | Notes Payable | | 297,079 |
| | *Computation of the present value of the note: | | |
| | Present value of \$400,000 due in 8 years at 11%— | | |
| | \$400,000 X .43393..... | | \$173,572 |
| | Present value of \$24,000 payable annually for 8 years at 11% annually— | | |
| | \$24,000 X 5.14612..... | | <u>123,507</u> |
| | Present value of the note | | <u>\$297,079</u> |
| (b) 1. Interest Expense..... | | 33,000 | |
| | Notes Payable | | |
| | (\$300,000 X .11) | | 33,000 |
| 2. Interest Expense | | | |
| | (\$297,079 X .11)..... | 32,679 | |
| | Notes Payable | | 8,679 |
| | Cash (\$400,000 X .06) | | 24,000 |

EXERCISE 14-12 (15–20 minutes)

| | | |
|-----|-------------------------------------------------------------|------------------|
| (a) | Face value of the zero-interest-bearing note..... | \$600,000 |
| | Discounting factor (12% for 3 periods)..... | <u>X .71178</u> |
| | Amount to be recorded for the land at January 1, 2011 | <u>\$427,068</u> |

| | |
|----------------------------------------------------|------------------|
| Carrying value of the note at January 1, 2011..... | \$427,068 |
| Applicable interest rate (12%)..... | <u>X .12</u> |
| Interest expense to be reported in 2011..... | <u>\$ 51,248</u> |

| | | |
|------------------------|-----------------|------------|
| (b) | January 1, 2011 | |
| Cash | 4,000,000 | |
| Notes Payable..... | | 2,732,040 |
| Unearned Revenue | | 1,267,960* |

$$*\$4,000,000 - (\$4,000,000 \times .68301) = \$1,267,960$$

| | |
|--------------------------------------|-------------------|
| Carrying value of the note | |
| at January 1, 2011 | \$2,732,040 |
| Applicable interest rate (10%) | <u>X .10</u> |
| Interest expense to be | |
| reported for 2011 | <u>\$ 273,204</u> |

EXERCISE 14-13 (15–20 minutes)

| | | | |
|-----|-------------------------------|---------|---------|
| (a) | Cash | 500,000 | |
| | Notes Payable..... | | 396,915 |
| | Unearned Revenue | | |
| | (\$500,000 – \$396,915) | | 103,085 |

| | |
|--------------------------|------------------|
| Face value | \$500,000 |
| Present value of 1 at 8% | |
| for 3 years | <u>X .79383</u> |
| Present value..... | <u>\$396,915</u> |

EXERCISE 14-13 (Continued)

| | | |
|--------------------------------------------|---------|---------|
| (b) Interest Expense (\$396,915 X 8%)..... | 31,753* | |
| Notes Payable | | 31,753* |
| Unearned Revenue (\$103,085 ÷ 3) | 34,362* | |
| Sales..... | | 34,362* |

*Rounded

EXERCISE 14-14 (20–25 minutes)

| | | |
|--------------------------------------------------|--|--------------------|
| (a) Present value of the principal: | | |
| \$1,500,000 X .35218..... | | \$ 528,270 |
| Present value of the interest payments: | | |
| (\$1,500,000 X 10%) X 5.88923 | | <u>883,385</u> |
| Present value (selling price) of the bonds | | <u>\$1,411,655</u> |

(b) AMORTIZATION SCHEDULE 10-Year, 10% Bonds Sold to Yield 11%

| Date | Cash Paid | Interest Expense | Discount Amortized | Carrying Amount of Bonds |
|----------|-----------|------------------|--------------------|--------------------------|
| 1/2/07 | — | — | — | \$1,411,655 |
| 12/31/07 | \$150,000 | \$155,282 | \$5,282 | 1,416,937 |
| 12/31/08 | 150,000 | 155,863 | 5,863 | 1,422,800 |
| 12/31/09 | 150,000 | 156,508 | 6,508 | 1,429,308 |
| 12/31/10 | 150,000 | 157,224 | 7,224 | 1,436,532 |
| 12/31/11 | 150,000 | 158,019 | 8,019 | 1,444,551 |

| | | |
|----------------------------------------------|---------|-----------|
| (c) Bonds Payable | | |
| (\$1,429,308 X \$1,000,000/\$1,500,000)..... | 952,872 | |
| Loss on Extinguishment of Bonds | 57,128 | |
| Cash (\$1,000,000 X 101%) | | 1,010,000 |

EXERCISE 14-15 (12–16 minutes)

| | | | |
|------------|----------------------------------------------------|--------------------------|--------------------------|
| (a) | | June 30, 2011 | |
| | Bonds Payable (\$600,000 – \$78,979) | 521,021 | |
| | Loss on Extinguishment of Bonds | 102,979 | |
| | Cash..... | | 624,000 |
| | Reacquisition price (\$600,000 X 104%)..... | | \$ 624,000 |
| | Net carrying amount of bonds redeemed: | | |
| | (\$600,000 – \$78,979) | | <u>(521,021)</u> |
| | Loss on extinguishment..... | | <u>\$ 102,979</u> |
| | Cash (\$800,000 X 112.5513%) | 900,410 | |
| | Bonds Payable | | 900,410 |
| (b) | | December 31, 2011 | |
| | Interest Expense | 22,510* | |
| | Bonds Payable | 1,490 | |
| | Cash..... | | 24,000** |
| | *(\$900,410 X 5% X 6/12) | | |
| | **(.03 X \$800,000 = \$24,000) | | |

EXERCISE 14-16 (10–15 minutes)

| | | |
|-----------------------------------------------|------------------|------------------|
| Reacquisition price (¥5,000,000 X 104%) | | ¥5,200,000 |
| Less: Net carrying amount of bonds redeemed: | | |
| Par value | ¥5,000,000 | |
| Unamortized discount | <u>(100,000)</u> | <u>4,900,000</u> |
| Loss on redemption | | <u>¥ 300,000</u> |
| | | |
| Bonds Payable | 4,900,000 | |
| Loss on Extinguishment of Bonds | 300,000 | |
| Cash | | 5,200,000 |
| (To record extinguishment of bonds payable) | | |
| | | |
| Cash (¥5,000,000 X 103%) | 5,015,000 | |
| Bonds Payable | | 5,015,000 |
| (To record issuance of new bonds) | | |

EXERCISE 14-17 (15–20 minutes)

(a) Transfer of property on December 31, 2010:

Strickland Company (Debtor):

| | | |
|----------------------------------------|---------|---------------------|
| Note Payable | 200,000 | |
| Interest Payable | 18,000 | |
| Accumulated Depreciation—Machine | 221,000 | |
| Machine | | 390,000 |
| Gain on Disposition of Machine | | 11,000 ^a |
| Gain on Extinguishment of Debt | | 38,000 ^b |

^a\$180,000 – (\$390,000 – \$221,000) = \$11,000.

^b(\$200,000 + \$18,000) – \$180,000 = \$38,000.

(b) “Gain on Disposition of Machine” and the “Gain on Extinguishment of Debt” should be reported under Other income and expense in the income statement.

(c) Granting of equity interest on December 31, 2010:

Strickland Company (Debtor):

| | | |
|--------------------------------------|---------|---------|
| Note Payable | 200,000 | |
| Interest Payable | 18,000 | |
| Share Capital—Ordinary | | 150,000 |
| Share Premium—Ordinary | | 30,000 |
| Gain on Extinguishment of Debt | | 38,000 |

EXERCISE 14-18 (25–30 minutes)

- (a) Yes, Barkley can record a gain on extinguishment equal to the difference between the note's carrying value and the fair value of the restructured note.

The note's fair value is computed as follows:

Present value of restructured cash flows:

| | |
|----------------------------------------|----------------------------|
| Present value of principal £2,400,000 | |
| due in 3 years at 15% | £1,578,048 ^a |
| Present value of interest £240,000 | |
| paid annually for 3 years at 15% | <u>547,975^b</u> |
| Fair value of note | <u>£2,126,023</u> |

^a£2,400,000 X .65752 = £1,578,048.

^b£240,000 X 2.28323 = £547,975.

- (b) The amortization schedule is prepared as follows:

BARKLEY COMPANY
Amortization Schedule After Debt Modification
Market-Interest Rate 15%

| Date | Cash Paid (10%) | Interest Expense (15%) | Amortization | Carrying Value |
|----------|-----------------------|------------------------------|-----------------------|-------------------|
| 12/31/10 | — | — | — | £2,126,023 |
| 12/31/11 | £240,000 ^a | £318,903 ^b | £ 78,903 ^c | 2,204,926 |
| 12/31/12 | 240,000 | 330,739 | 90,739 | 2,295,665 |
| 12/31/13 | <u>240,000</u> | <u>344,335[*]</u> | <u>104,335</u> | 2,400,000 |
| Total | <u>£720,000</u> | <u>£993,977</u> | <u>£273,977</u> | |

^a£2,400,000 X 10% = £240,000.

^b£2,126,023 X 15% = £318,903.

^c£318,903 – £240,000 = £78,903.

^{*}Rounded £15.

EXERCISE 14-18 (Continued)

(c) Interest payment entry for Barkley Company is:

| December 31, 2012 | | |
|------------------------|---------|---------|
| Interest Expense | 330,739 | |
| Note Payable | | 90,739 |
| Cash | | 240,000 |

(d) The payment entry at maturity is:

| January 1, 2014 | | |
|--------------------|-----------|-----------|
| Note Payable | 2,400,000 | |
| Cash | | 2,400,000 |

EXERCISE 14-19 (20–30 minutes)

(a) The note's fair value can be calculated as follows:

Present value of restructured cash flows:

Present value of principal £1,900,000

 due in 3 years at 15% £1,249,288^a

Present value of interest £190,000

 paid annually for 3 years at 15% 433,814^b

Fair value of note £1,683,102

^a£1,900,000 X .65752 = £1,249,288

^b£190,000 X 2.28323 = £433,814

| December 31, 2010 | | |
|--------------------------------------|-----------|-----------|
| Note Payable (Old) | 1,900,000 | |
| Gain on Extinguishment of Debt | | 216,898 |
| Note Payable (New) | | 1,683,102 |

EXERCISE 14-19 (Continued)

(b) The amortization schedule is prepared as follows:

BARKLEY COMPANY
Amortization Schedule After Debt Modification
Market-Interest Rate 15%

| Date | Cash Paid (10%) | Interest Expense (15%) | Amortization | Carrying Value |
|-------------|--------------------------------|---------------------------------------|-----------------------|---------------------------|
| 12/31/10 | — | — | — | £1,683,102 |
| 12/31/11 | £190,000 ^a | £252,465 ^b | £ 62,465 ^c | 1,745,567 |
| 12/31/12 | 190,000 | 261,835 | 71,835 | 1,817,402 |
| 12/31/13 | <u>190,000</u> | <u>272,598</u> | <u>82,598</u> | 1,900,000 |
| Total | <u>£570,000</u> | <u>£786,898</u> | <u>£216,898</u> | |

^a£1,900,000 X 10% = £190,000.

^b£1,683,102 X 15% = £252,465.

^c£252,465 – £190,000 = £62,465.

EXERCISE 14-19 (Continued)

(c) Interest payment entries for Barkley Company are:

| December 31, 2011 | | |
|------------------------|---------|---------|
| Interest Expense | 252,465 | |
| Note Payable | | 62,465 |
| Cash | | 190,000 |

| December 31, 2012 | | |
|------------------------|---------|---------|
| Interest Expense | 261,835 | |
| Note Payable | | 71,835 |
| Cash | | 190,000 |

| December 31, 2013 | | |
|------------------------|---------|---------|
| Interest Expense | 272,598 | |
| Note Payable | | 82,598 |
| Cash | | 190,000 |

(d) The payment entry at maturity is:

| January 1, 2014 | | |
|--------------------|-----------|-----------|
| Note Payable | 1,900,000 | |
| Cash | | 1,900,000 |

EXERCISE 14-20 (15–20 minutes)

(a) Gottlieb Co.'s entry:

| | | |
|---------------------------------------------------------------|---------|---------|
| Note Payable | 199,800 | |
| Property | | 90,000 |
| Gain on Disposition of Property (€140,000 – €90,000) | | 50,000 |
| Gain on Extinguishment of Debt | | 59,800* |

*€199,800 – €140,000.

(b) Present value of restructured cash flows:

| | | |
|--------------------------------------------------------------------------------------------------------------------------|--|------------------|
| Present value of \$220,000 due in 2 years at 8%, interest payable annually (Table 6-2); (\$220,000 X .85734) | | \$188,615 |
| Present value of \$11,000 interest payable annually for 2 years at 8% (Table 6-4); (\$11,000 X 1.78326) | | <u>19,616</u> |
| Fair value of note | | <u>\$208,231</u> |

Vargo Corp.'s entries:

| | | |
|--------------------------------------------------------------|---------|---------|
| 2010 Note Payable (Old) | 270,000 | |
| Gain on Extinguishment of Debt | | 61,769 |
| Note Payable (New) | | 208,231 |
| 2011 Interest Expense (\$208,231 X 8%) | 16,658 | |
| Note Payable | | 5,658 |
| Cash (5% X \$220,000) | | 11,000 |
| 2012 Interest Expense [(\$208,231 + \$5,658) X .08] | 17,111 | |
| Note Payable | 213,889 | |
| Cash [\$220,000 + (5% X \$220,000)] | | 231,000 |

EXERCISE 14-21 (10–15 minutes)

(a) **December 31, 2010**

No entry since the carrying value is equal to the notes' fair value.

December 31, 2011

| | | |
|----------------------------------------------|-------|-------|
| Note Payable..... | 1,500 | |
| Unrealized Holding Gain or Loss—Income | | 1,500 |

December 31, 2012

| | | |
|--------------------------------------------------|-------|-------|
| Unrealized Holding Gain or Loss—Income | 3,500 | |
| Note Payable [(€38,000 – €36,000) + €1,500]..... | | 3,500 |

- (b) The note will be reported at €42,500 on Fallen's 2011 statement of financial position.
- (c) Fallen's 2012 income is €3,500 lower since the change in fair value is reported as part of net income.
- (d) Fallen's creditworthiness has declined since the fair value of its debt declined. Since the general market interest rates have been stable, the fair value decline must have been caused by a decline in Fallen's creditworthiness.

EXERCISE 14-22 (10–15 minutes)

At December 31, 2010, disclosures would be as follows:

Maturities and sinking fund requirements on long-term debt are as follows:

| | | | |
|-------------|------------------|------------------------------------|--|
| 2011 | \$ | 0 | |
| 2012 | 2,500,000 | | |
| 2013 | 4,500,000 | (\$2,000,000 + \$2,500,000) | |
| 2014 | 8,500,000 | (\$6,000,000 + \$2,500,000) | |
| 2015 | 2,500,000 | | |

TIME AND PURPOSE OF PROBLEMS

Problem 14-1 (Time 15–20 minutes)

Purpose—to provide the student with the opportunity to interpret a bond amortization schedule. This problem requires both an understanding of the function of such a schedule and the relevance of each of the individual numbers. The student is to prepare journal entries to reflect the information given in the bond amortization schedule.

Problem 14-2 (Time 25–30 minutes)

Purpose—to provide the student with an understanding of how to make the journal entry to record the issuance of bonds. In addition, a portion of the bonds are retired and therefore a bond amortization schedule has to be prepared.

Problem 14-3 (Time 20–30 minutes)

Purpose—to provide the student with an understanding of how interest rates can be used to deceive a customer. The problem is challenging because for the first year of this transaction, negative amortization results.

Problem 14-4 (Time 40–50 minutes)

Purpose—to provide the student with an opportunity to explain what the effective-interest method is, why it is required, and how it is computed. As one part of the problem, an amortization schedule must be prepared.

Problem 14-5 (Time 15–25 minutes)

Purpose—to provide the student with an opportunity to become familiar with the application of **IFRS**, involving the exchange of notes for cash or property, goods, or services. This problem requires the preparation of the necessary journal entries concerning the exchange of a zero-interest-bearing long-term note for a computer, and the necessary adjusting entries relative to depreciation and amortization. The student should construct the relevant Schedule of Note Discount Amortization to support the respective entries.

Problem 14-6 (Time 20–25 minutes)

Purpose—to provide the student with an opportunity to become familiar with the application of **IFRS**, involving the exchange of a note, which is payable in equal installments, for machinery. This problem requires the preparation of the necessary journal entries concerning the exchange and the annual payments and interest. A Schedule of Note Discount Amortization should be constructed to support the respective entries.

Problem 14-7 (Time 15–20 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated when there is a bond issuance and bond retirement. This problem also provides an opportunity for the student to learn the footnote disclosure required.

Problem 14-8 (Time 50–65 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated for a bond issuance. This problem involves two independent bond issuances with the assumption that one is sold at a discount and the other at a premium, both utilizing the effective-interest method. This comprehensive problem requires preparing journal entries for the issuance of bonds, related interest payments and amortization (with the construction of amortization tables where applicable), and the retirement of part of the bonds.

Time and Purpose of Problems (Continued)

Problem 14-9 (Time 20–25 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated when there is a bond issuance and bond retirement. This problem requires preparing journal entries for the issuance of bonds, related interest payments and amortization, and the retirement of part of the bonds.

Problem 14-10 (Time 20–25 minutes)

Purpose—to provide the student with a series of transactions from bond issuance, payment of bond interest, accrual of bond interest, amortization of bond discount, and bond retirement. Journal entries are required for each of these transactions.

Problem 14-11 (Time 15–25 minutes)

Purpose—to provide the student with a debt modification situation that requires computation of the debtor's gain on restructure, entries to recognize the gain and discussion of IFRS relating to this situation.

Problem 14-12 (Time 30–45 minutes)

Purpose—to provide the student with three independent and different restructured debt situations where gains must be computed and journal entries recorded on the books of the debtor.

Problem 14-13 (Time 40–50 minutes)

Purpose—to provide the student with a complex debt modification situation that requires two amortization schedules, computation of loss on restructure, and entries at different times on the debtor's books.

Problem 14-14 (Time 20–25 minutes)

Purpose—to provide the student with an understanding of a number of areas related to bonds. Specifically, the classification of bonds, determination of cash received with accrued interest, and disclosure requirements.

SOLUTIONS TO PROBLEMS

PROBLEM 14-1

(a) The bonds were sold at a discount of \$5,651. Evidence of the discount is the January 1, 2004 book value of \$94,349, which is less than the maturity value of \$100,000 in 2013.

(b) The stated rate is 11% ($\$11,000 \div \$100,000$). The effective rate is 12% ($\$11,322 \div \$94,349$).

(c) January 1, 2004

| | | |
|---------------------|--------|--------|
| Cash | 94,349 | |
| Bonds Payable | | 94,349 |

(d) December 31, 2004

| | | |
|------------------------|--------|--------|
| Interest Expense | 11,322 | |
| Bonds Payable | | 322 |
| Interest Payable | | 11,000 |

(e) January 1, 2011 (Interest Payment)

| | | |
|-----------------------|--------|--------|
| Interest Payable..... | 11,000 | |
| Cash..... | | 11,000 |

December 31, 2011

| | | |
|------------------------|--------|--------|
| Interest Expense | 11,712 | |
| Bonds Payable | | 712 |
| Interest Payable | | 11,000 |

PROBLEM 14-2

| | | |
|-----|------------------------------------------------------|--------------------|
| (a) | Present value of the principal | |
| | \$2,000,000 X .38554 (PV _{10, 10%}) | \$ 771,080 |
| | Present value of the interest payments | |
| | \$210,000* X 6.14457 (PVOA _{10, 10%})..... | <u>1,290,360</u> |
| | Present value (selling price of the bonds) | <u>\$2,061,440</u> |
| | *\$2,000,000 X 10.5% = <u>\$210,000</u> | |
| | Cash | 2,061,440 |
| | Bonds Payable..... | 2,061,440 |

| (b) | | | | Carrying Amount of Bonds |
|-----|--------|--------------|---------------------|--------------------------------|
| | Date | Cash Paid | Interest Expense | Premium Amortization |
| | 1/1/09 | — | — | — |
| | 1/1/10 | \$210,000 | \$206,144 | \$3,856 |
| | 1/1/11 | 210,000 | 205,758 | 4,242 |
| | 1/1/12 | 210,000 | 205,334 | 4,666 |
| | 1/1/13 | 210,000 | 204,868 | 5,132 |

| | | |
|-----|------------------------------------|--------------------|
| (c) | Carrying amount as of 1/1/12..... | \$2,048,676 |
| | Less: Amortization of bond premium | |
| | (5,132 ÷ 2)..... | <u>2,566</u> |
| | Carrying amount as of 7/1/12..... | <u>\$2,046,110</u> |
| | Reacquisition price..... | \$1,065,000 |
| | Carrying amount as of 7/1/12 | |
| | (\$2,046,110 ÷ 2) | <u>(1,023,055)</u> |
| | Loss | <u>\$ 41,945</u> |

PROBLEM 14-2 (Continued)

Entry for accrued interest

| | | |
|-------------------------------------------------------------|--------|--------|
| Interest Expense ($\$204,868 \times 1/2 \times 1/2$)..... | 51,217 | |
| Bonds Payable | 1,283 | |
| Cash ($\$210,000 \times 1/2 \times 1/2$) | | 52,500 |

Entry for reacquisition

| | | |
|---------------------------------------|------------|-----------|
| Bonds Payable | 1,023,055* | |
| Loss on Extinguishment of Bonds | 41,945 | |
| Cash | | 1,065,000 |

*Premium as of 7/1/12 to be written off
 $(\$2,046,110 - \$2,000,000) \times 1/2 = \$23,055$

The loss is reported as other income and expense.

PROBLEM 14-3

(a)

| Date | Cash Paid | Interest Expense | Discount Amortized | Carrying Amount of Note |
|---------|-----------|------------------|--------------------|-------------------------|
| 1/1/10 | — | — | — | €32,000 |
| 4/1/10 | €400 | €640 | €240 | 32,240 |
| 7/1/10 | 400 | 645 | 245 | 32,485 |
| 10/1/10 | 400 | 650 | 250 | 32,735 |
| 1/1/11 | 400 | 655 | 255 | 32,990 |

(b) At this point, we see that the customer owes €32,990, or €990 more than at the beginning of the year.

(c) To earn 8% over the next two years the quarterly payments must be €4,503 computed as follows:

$$€32,990 \div 7.32548 \text{ (PVOA}_{8, 2\%}) = €4,503$$

(d)

| Date | Cash Paid | Interest Expense | Discount Amortized | Carrying Amount of Note |
|---------|-----------|------------------|--------------------|-------------------------|
| 1/1/11 | — | — | — | €32,990 |
| 4/1/11 | €4,503 | €660 | €3,843 | 29,147 |
| 7/1/11 | 4,503 | 583 | 3,920 | 25,227 |
| 10/1/11 | 4,503 | 505 | 3,998 | 21,229 |
| 1/1/12 | 4,503 | 425 | 4,078 | 17,151 |
| 4/1/12 | 4,503 | 343 | 4,160 | 12,991 |
| 7/1/12 | 4,503 | 260 | 4,243 | 8,748 |
| 10/1/12 | 4,503 | 175 | 4,328 | 4,420 |
| 1/1/13 | 4,503 | 83* | 4,420 | 0 |

*rounded up €5

(e) The new sales gimmick may bring people into the showroom the first time but will drive them away once they learn of the amount of their year 2 and year 3 payments. Many will not have budgeted for these increases, and will be in a bind because they owe more on their car than it's worth. One should question the ethics of a dealer using this tactic.

PROBLEM 14-4

Dear Samantha,

When a bond is issued at face value, the annual interest expense and the interest payout equals the face value of the bond times the interest rate stated on its face. However, if the bond is issued to yield a higher or lower interest rate than what is stated on its face, the interest expense and the actual interest payout will differ. Labeled as a discount or premium respectively, this difference in interest must be systematically associated with the interest periods which occur over the bond's life through a process called amortization.

Assume a premium: the theory behind the effective-interest method is that, as time passes, the difference between the face value of the bond and its carrying amount becomes smaller, resulting in a lower interest expense every period. (The carrying amount equals the face value of the bond plus any unamortized portion of the premium.) Because the carrying amount of the bond becomes smaller over time, the interest expense also does. Since the stated interest rate remains constant, the resulting difference between the actual interest payout and the interest expense recognized must be reflected when interest expense is recorded for the period.

To amortize the premium applying this method to the data provided, you must know the bond's face amount, its stated rate of interest, its effective rate of interest, and its carrying value.

1. Multiply the stated rate times the face amount. This is the interest payout.
2. Multiply the bond's carrying amount by the effective rate which gives you the actual interest expense.

PROBLEM 14-4 (Continued)

3. Subtract the amount calculated in #2 above from that found in #1. This is the amount to be amortized for the period.
4. Subtract the difference computed in #3 from the carrying amount. The process begins all over when you apply the effective rate to this new carrying amount for the following period.

The schedule below illustrates this calculation. The face value (\$2,000,000) is multiplied by the stated rate of 11 percent, while the carrying amount (\$2,171,600) is multiplied by the effective rate of 10 percent. Because this bond pays interest semiannually, you must also multiply these amounts by 6/12. The result is the interest payout of \$110,000 and interest expense of \$108,580. The difference (\$1,420) is amortized, lowering the carrying amount of the bond to \$2,170,180. For the next period, this new carrying amount will be multiplied by the effective rate times 6/12 and subtracted from the constant \$110,000. Obviously this time the interest expense will be lower than it was last period, resulting in a greater amount of amortization in the next period.

Follow these steps and you should have no trouble amortizing premiums and discounts over the life of a bond.

Sincerely,

Attachment to letter

HOBART COMPANY
Interest and Discount Amortization Schedule
11% Bond Issued to Yield 10%

| Date | Cash Paid (11%) | Interest Expense (10%) | Premium Amortized | Carrying Amount of Bond |
|----------|-----------------------|------------------------------|----------------------|-------------------------------|
| 6-30-10 | — | — | — | \$2,171,600 |
| 12-31-10 | \$110,000 | \$108,580 | \$1,420 | 2,170,180 |
| 6-30-11 | 110,000 | 108,509 | 1,491 | 2,168,689 |
| 12-31-11 | 110,000 | 108,434 | 1,566 | 2,167,123 |
| 6-30-12 | 110,000 | 108,356 | 1,644 | 2,165,479 |

PROBLEM 14-5

| | | | |
|----------------------------------------------------------------------------|--------------------------|------------|--|
| (a) | December 31, 2010 | | |
| Computer | 409,806.00 | | |
| Notes Payable..... | | 409,806.00 | |
| (Computer capitalized at the present value of the note—\$600,000 X .68301) | | | |

| | | | |
|-------------------------------------------------------------------------|--------------------------|-----------|--|
| (b) | December 31, 2011 | | |
| Depreciation Expense | 67,961.20 | | |
| Accumulated Depreciation—Computer [(\$409,806 – \$70,000) ÷ 5] | | 67,961.20 | |
| Interest Expense | 40,980.60 | | |
| Notes Payable..... | | 40,980.60 | |

Schedule of Note Discount Amortization

| Date | Debit, Interest Expense Credit, Notes Payable | Carrying Amount of Note |
|-------------|----------------------------------------------------------|------------------------------------|
| 12/31/10 | — | \$409,806.00 |
| 12/31/11 | \$40,980.60 | 450,786.60 |
| 12/31/12 | 45,078.66 | 495,865.26 |
| 12/31/13 | 49,586.53 | 545,451.79 |
| 12/31/14 | 54,548.21* | 600,000.00 |

*3.03 adjustment due to rounding.

| | | | |
|-----------------------------------------|--------------------------|-----------|--|
| (c) | December 31, 2012 | | |
| Depreciation Expense | 67,961.20 | | |
| Accumulated Depreciation—Computer | | 67,961.20 | |
| Interest Expense | 45,078.66 | | |
| Notes Payable..... | | 45,078.66 | |

PROBLEM 14-6

| | | | | |
|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------|
| (a) | 12/31/09 | Machinery..... | 182,485.20* | |
| | | Cash | | 50,000.00 |
| | | Notes Payable | | 132,485.20 |
| | | *To record machinery at the present value of the note plus the immediate cash payment: PV of \$40,000 annuity @ 8% for 4 years (\$40,000 X 3.31213) | | |
| | | | | \$132,485.20 |
| | | Down payment..... | | 50,000.00 |
| | | Capitalized value of Machinery..... | | <u>\$182,485.20</u> |
| | | | | |
| (b) | 12/31/10 | Notes Payable..... | 40,000.00 | |
| | | Cash | | 40,000.00 |
| | | | | |
| | | Interest Expense | 10,598.82 | |
| | | Notes Payable | | 10,598.82 |

Schedule of Note Discount Amortization

| Date | Cash Paid | Interest Expense | Amortization | Carrying Amount of Note |
|----------|-------------|---------------------|--------------|----------------------------|
| 12/31/09 | — | — | — | \$132,485.20 |
| 12/31/10 | \$40,000.00 | \$10,598.82 | \$29,401.18 | 103,084.02* |
| 12/31/11 | 40,000.00 | 8,246.72 | 31,753.28 | 71,330.74 |
| 12/31/12 | 40,000.00 | 5,706.46 | 34,293.54 | 37,037.20 |
| 12/31/13 | 40,000.00 | 2,962.80** | 37,037.20 | — |

*\$103,084.02 = \$132,485.20 – \$29,401.18.

**\$0.18 adjustment due to rounding.

PROBLEM 14-6 (Continued)

| | | | | |
|-----|----------|------------------------|-----------|-----------|
| (c) | 12/31/11 | Notes Payable | 40,000.00 | |
| | | Cash..... | | 40,000.00 |
| | | | | |
| | | Interest Expense | 8,246.72 | |
| | | Notes Payable | | 8,246.72 |
| (d) | 12/31/12 | Notes Payable | 40,000.00 | |
| | | Cash..... | | 40,000.00 |
| | | | | |
| | | Interest Expense | 5,706.46 | |
| | | Notes Payable | | 5,706.46 |
| (e) | 12/31/13 | Notes Payable | 40,000.00 | |
| | | Cash..... | | 40,000.00 |
| | | | | |
| | | Interest Expense | 2,962.80 | |
| | | Notes Payable | | 2,962.80 |

| |
|---------------------|
| PROBLEM 14-7 |
|---------------------|

- (a) Entry to record the issuance of the 11% bonds on December 18, 2010:

| | | |
|---------------------------------|------------|------------|
| Cash (¥40,000,000 X 102%) | 40,800,000 | |
| Bonds Payable..... | | 40,800,000 |

Entry to record the retirement of the 9% bonds on January 2, 2011:

| | | |
|-------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| Bonds Payable (¥30,000,000 – ¥1,842,888) | 28,157,112 | |
| Loss on Extinguishment of Bonds | 3,042,888 | |
| Cash (¥30,000,000 X 104%)..... | | 31,200,000 |
| [The loss represents the excess of the cash paid (¥31,200,000) over the carrying amount of the bonds (¥28,157,112).] | | |

- (b) The loss is reported as an Other income and expense item.

Note 1. Loss on Bond Extinguishment

The loss represents a loss of ¥3,042,888 from the extinguishment and retirement of ¥30,000,000 of the Company's outstanding bond issue due in 2021. The funds used to purchase the mortgage bonds represent a portion of the proceeds from the sale of ¥40,000,000 of 11% debenture bonds issued December 18, 2010 and due in 2030.

PROBLEM 14-8

1. Sanford Co.

| | | | |
|-----------------------------------------------------------|-------------------------------------------------------|-----------------|-------------------------|
| 3/1/10 | Cash | 472,090* | |
| | Bonds Payable | | 472,090 |
| *Present value of \$500,000 due in 7 periods at 6% | | | |
| | (\$500,000 X .66506) | | \$332,530 |
| | Present value of interest payable semiannually | | |
| | (\$25,000 X 5.58238) | | 139,560 |
| | Proceeds from sale of bonds | | <u>\$472,090</u> |
| 9/1/10 | Interest Expense | 28,325* | |
| | Bonds Payable | | 3,325 |
| | Cash | | 25,000 |
| | (See amortization table on next page) | | |
| 12/31/10 | Interest Expense | 19,017 | |
| | Bonds Payable | | |
| | (\$3,525 X 4/6) | | 2,350 |
| | Interest Payable (\$25,000 X 4/6) | | 16,667 |
| 3/1/11 | Interest Expense | 9,508 | |
| | Interest Payable | 16,667 | |
| | Bonds Payable | | |
| | (\$3,525 X 2/6) | | 1,175 |
| | Cash | | 25,000 |
| 9/1/11 | Interest Expense | 28,736 | |
| | Bonds Payable | | 3,736 |
| | Cash | | 25,000 |
| 12/31/11 | Interest Expense | 19,308 | |
| | Bonds Payable | | |
| | (\$3,961 X 4/6) | | 2,641 |
| | Interest Payable | | 16,667 |

PROBLEM 14-8 (Continued)

Schedule of Bond Discount Amortization Effective-Interest Method 10% Bonds Sold to Yield 12%

| Date | Cash Paid | Interest Expense | Discount Amortized | Carrying Amount of Bonds |
|-------------|----------------------|-----------------------------|-------------------------------|-----------------------------------------|
| 3/1/10 | — | — | — | \$472,090 |
| 9/1/10 | \$25,000 | \$28,325 | \$3,325 | 475,415 |
| 3/1/11 | 25,000 | 28,525 | 3,525 | 478,940 |
| 9/1/11 | 25,000 | 28,736 | 3,736 | 482,676 |
| 3/1/12 | 25,000 | 28,961 | 3,961 | 486,637 |
| 9/1/12 | 25,000 | 29,198 | 4,198 | 490,835 |
| 3/1/13 | 25,000 | 29,450 | 4,450 | 495,285 |
| 9/1/13 | 25,000 | 29,715* | 4,715 | 500,000 |

*Rounded \$2.

2. Titania Co.

| | | | |
|----------------------------------------------------------|-----------------------------------------|---------|------------------|
| 6/1/10 | Cash..... | 425,853 | |
| | Bonds Payable..... | | 425,853 |
| Present value of \$400,000 due in 8 periods at 5% | | | |
| | (\$400,000 X .67684)..... | | \$270,736 |
| Present value of interest payable semiannually | | | |
| | (\$24,000 X 6.46321)..... | | <u>155,117</u> |
| | Proceeds from sale of bonds..... | | <u>\$425,853</u> |
| 12/1/10 | Interest Expense..... | 21,293* | |
| | Bonds Payable | 2,707 | |
| | Cash (\$400,000 X .12 X 6/12) | | 24,000 |
| (See amortization table on Page 14–50) | | | |
| 12/31/10 | Interest Expense (\$21,157 X 1/6) | 3,526 | |
| | Bonds Payable | | |
| | (\$2,843 X 1/6) | 474 | |
| | Interest Payable (\$24,000 X 1/6)..... | | 4,000 |

PROBLEM 14-8 (Continued)

| | | | |
|--------|----------------------------------------|--------|--------|
| 6/1/11 | Interest Expense (\$21,157 X 5/6)..... | 17,631 | |
| | Interest Payable..... | 4,000 | |
| | Bonds Payable | | |
| | (\$2,843 X 5/6)..... | 2,369 | |
| | Cash..... | | 24,000 |

| | | | |
|---------|------------------------------|-------|-------|
| 10/1/11 | Interest Expense | | |
| | (\$21,015 X .3* X 4/6) | 4,203 | |
| | Bonds Payable | | |
| | (\$2,985 X .3 X 4/6) | 597 | |
| | Cash..... | | 4,800 |

$$*\$120,000 \div \$400,000 = .3$$

| | | | |
|---------|--------------------------------------|---------|---------|
| 10/1/11 | Bonds Payable..... | 125,494 | |
| | Gain on Extinguishment of Bonds | | 4,294* |
| | Cash..... | | 121,200 |

*Reacquisition price

$$\$126,000 - (\$120,000 \times 12\% \times 4/12) \quad \$121,200$$

Net carrying amount of bonds redeemed:

$$(\$420,303^* \times .30) - \$597 \quad \underline{(125,494)}$$

$$\text{Gain on extinguishment} \quad \underline{\underline{\$ (4,294)}}$$

*From amortization table on page 14–53

| | | | |
|---------|-----------------------------------------|--------|--------|
| 12/1/11 | Interest Expense (\$21,015 X .7*) | 14,711 | |
| | Bonds Payable (\$2,985 X .7)..... | 2,089 | |
| | Cash (\$24,000 X .7) | | 16,800 |

$$*(\$400,000 - \$120,000) \div \$400,000 = .7$$

| | | | |
|----------|----------------------------------------------|-------|-------|
| 12/31/11 | Interest Expense (\$20,866 X .7 X 1/6) | 2,434 | |
| | Bonds Payable (\$3,134 X .7 X 1/6)..... | 366 | |
| | Interest Payable | | |
| | (\$24,000 X .7 X 1/6) | | 2,800 |

PROBLEM 14-8 (Continued)

| | | | |
|---------|---------------------------------------------|--------|--------|
| 6/1/12 | Interest Expense (\$20,866 X .7 X 5/6)..... | 12,172 | |
| | Interest Payable | 2,800 | |
| | Bonds Payable | | |
| | (\$3,134 X .7 X 5/6)..... | 1,828 | |
| | Cash (\$24,000 X .7)..... | | 16,800 |
| 12/1/12 | Interest Expense (\$20,709 X .7)..... | 14,496 | |
| | Bonds Payable | | |
| | (\$3,291 X .7)..... | 2,304 | |
| | Cash (\$24,000 X .7)..... | | 16,800 |

| Date | Cash Paid | Interest Expense | Premium Amortized | Carrying Amount of Bonds |
|---------|--------------|---------------------|----------------------|--------------------------------|
| 6/1/10 | — | — | — | \$425,853 |
| 12/1/10 | \$24,000 | \$21,293 | \$2,707 | 423,146 |
| 6/1/11 | 24,000 | 21,157 | 2,843 | 420,303 |
| 12/1/11 | 24,000 | 21,015 | 2,985 | 417,318 |
| 6/1/12 | 24,000 | 20,866 | 3,134 | 414,184 |
| 12/1/12 | 24,000 | 20,709 | 3,291 | 410,893 |
| 6/1/13 | 24,000 | 20,545 | 3,455 | 407,438 |
| 12/1/13 | 24,000 | 20,372 | 3,628 | 403,810 |
| 6/1/14 | 24,000 | 20,190* | 3,810 | 400,000 |

*\$.50 adjustment due to rounding.

PROBLEM 14-9

July 1, 2010

| | |
|-----------------------------------------------------|--------------|
| Cash | |
| (\$900,000 X 1.19219) + (\$900,000 X 12% X 6/12) .. | 1,126,971.00 |
| Bonds Payable..... | 1,072,971.00 |
| Interest Expense (\$900,000 X 12% X 6/12)..... | 54,000.00 |

December 31, 2010

| | | |
|-----------------------------------------|------------|------------|
| Interest Expense (\$900,000 X 12%)..... | 108,000.00 | |
| Interest Payable..... | | 108,000.00 |
| Bonds Payable | 351.45 | |
| Interest Expense | | |
| [((\$108,000 – \$54,000) – | | |
| (\$1,072,971 X 10% X 6/12)]..... | | 351.45 |

January 1, 2011

| | | |
|------------------------|------------|------------|
| Interest Payable | 108,000.00 | |
| Cash | | 108,000.00 |

January 2, 2011

| | | |
|--------------------------------------|-------------|------------|
| Bonds Payable | 429,047.82* | |
| Cash (\$360,000 X 102%) | | 367,200.00 |
| Gain on Extinguishment of Bonds..... | | 61,847.82 |

*[((\$360,000 ÷ \$900,000) X (\$1,072,971 – \$351.45)].

| | |
|----------------------------------------------------------|-----------------------|
| Reacquisition price | |
| (\$360,000 X 102%) | \$367,200.00 |
| Net carrying value of bonds redeemed: | |
| (\$1,072,971 – \$351.45) X (\$360,000 ÷ \$900,000) | <u>(429,047.82)</u> |
| Gain on redemption | <u>\$ (61,847.82)</u> |

PROBLEM 14-9 (Continued)

| December 31, 2011 | | |
|-----------------------------------------|------------|-----------|
| Interest Expense (\$540,000 X .12)..... | 64,800.00 | |
| Interest Payable | | 64,800.00 |
| Bonds Payable | 442.83 | |
| Interest Expense | | |
| [(\$1,072,971 – \$351.45 – | | |
| \$429,047.82) X .10] – \$64,800 | | 442.83 |

PROBLEM 14-10

| | | | | |
|-----|----------|--------------------------------------------------------------------------------------------|-------------|---------------------|
| (a) | 4/1/10 | Cash | 13,967,634* | |
| | | Bonds Payable | | 13,967,634 |
| | | *Present value of Rs15,000,000 due in 30 periods at 6% (Rs15,000,000 X .17411) | | |
| | | | | Rs 2,611,650 |
| | | Present value of interest payable Semiannually (Rs825,000 X 13.76483) | | |
| | | | | <u>11,355,984</u> |
| | | | | <u>Rs13,967,634</u> |
| (b) | 10/1/10 | Bond Interest Expense | 838,058* | |
| | | Cash | | 825,000** |
| | | Bonds Payable | | 13,058 |
| | | *Rs13,967,634 X .12 X 6/12 = Rs838,058 | | |
| | | **Rs15,000,000 X .11 X 6/12 = Rs825,000 | | |
| | | | | |
| (c) | 12/31/10 | Bond Interest Expense | 419,421* | |
| | | Interest Payable | | 412,500 |
| | | Bonds Payable | | 6,921 |
| | | *(Rs13,967,634 + Rs13,058) X .12 X 3/12 | | |
| (d) | 4/1/11 | Interest Payable | 412,500 | |
| | | Bond Interest Expense | 419,628* | |
| | | Cash | | 825,000** |
| | | Bonds Payable | | 7,128 |
| | | *Rs15,000,000 X .11 X 6/12 | | |
| | | **Rs13,987,613 X .12 X 3/12 | | |

Au: Is it correct. Pls confirm

NOTE: All bondholders are paid on April 1

PROBLEM 14-10 (Continued)

The reacquisition price: 200,000 shares X Rs31 = Rs6,200,000.

The loss on extinguishment of the bonds is:

| | |
|-------------------------------------|-------------------|
| Reacquisition price | Rs6,200,000 |
| Less: Carrying amount | |
| (Rs13,987,613 + Rs7,128) X 40%..... | <u>5,597,896</u> |
| Loss | <u>Rs 602,104</u> |

The entry to record extinguishment of the bonds is:

April 2, 2011

| | | |
|---------------------------------------|-----------|-----------|
| Bonds Payable..... | 5,597,896 | |
| Loss on Extinguishment of Bonds | 602,104 | |
| Share Capital—Ordinary | | 2,000,000 |
| Share Premium—Ordinary | | 4,200,000 |

| |
|----------------------|
| PROBLEM 14-11 |
|----------------------|

(a) It is an extinguishment of debt with modification of terms.

| | | |
|--------------------------------------|---------|----------|
| (b) Note Payable (Old) | 600,000 | |
| Gain on Extinguishment of Debt | | 301,123* |
| Note Payable (New) | | 298,877 |

*Calculation of gain.

| | | |
|---------------------------------------------------------------------------------------------------------------------------|----------------|------------------|
| Pre-restructure carrying amount..... | | \$600,000 |
| Present value of restructured cash flows: | | |
| Present value of \$600,000 due in 10 years at 15%, interest payable annually (Table 6-2); (\$600,000 X .24719)..... | \$148,314 | |
| Present value of \$30,000 interest payable annually for 10 years at 15% (Table 6-4); (\$30,000 X 5.01877)..... | <u>150,563</u> | <u>(298,877)</u> |
| Debtor's gain on extinguishment..... | | <u>\$301,123</u> |

| |
|----------------------|
| PROBLEM 14-12 |
|----------------------|

| | | | |
|-----|--------------------------------------|-----------|-----------|
| (a) | Note Payable..... | 5,000,000 | |
| | Share Capital—Ordinary | | 1,700,000 |
| | Share Premium—Ordinary | | 2,000,000 |
| | Gain on Extinguishment of Debt | | 1,300,000 |

| | |
|-----------------------------------------|--------------------|
| Carrying amount of debt..... | 5,000,000 |
| Fair value of equity | <u>(3,700,000)</u> |
| Gain on extinguishment of debt | <u>\$1,300,000</u> |

| | | | |
|-----|------------------------------------------|-----------|-----------|
| (b) | Note Payable..... | 5,000,000 | |
| | Land | | 3,250,000 |
| | Gain on Disposition of Real Estate | | 750,000 |
| | Gain on Extinguishment of Debt | | 1,000,000 |

| | |
|---------------------------------------------|--------------------|
| Fair value of land..... | \$4,000,000 |
| Book value of land..... | <u>(3,250,000)</u> |
| Gain on disposition of real estate | <u>\$ 750,000</u> |

| | |
|-----------------------------------------|--------------------|
| Note payable (carrying amount) | \$5,000,000 |
| Fair value of land..... | <u>(4,000,000)</u> |
| Gain on extinguishment of debt..... | <u>\$1,000,000</u> |

PROBLEM 14-12 (Continued)

| | | | |
|-----|--------------------------------------|-----------|------------|
| (c) | Note Payable (Old) | 5,000,000 | |
| | Gain on Extinguishment of Debt | | 1,712,400* |
| | Note Payable (New) | | 3,287,600 |

*Calculation of gain.

| | |
|-------------------------------------------------|---------------------|
| Pre-restructure carrying amount | \$ 5,000,000 |
| Less: Present value of restructured cash flows: | |
| Present value of \$5,000,000 due in | |
| 3 years at 12% (Table 6-2); | |
| (\$5,000,000 X .65752) | <u>3,287,600</u> |
| Debtor's gain on extinguishment..... | <u>\$ 1,712,400</u> |

***PROBLEM 14-13**

(a) Present value of restructured cash flows:

| | |
|---------------------------------------------------------------------------------------------------------------|-------------------------|
| Present value of principal \$300,000 due in 3 years at 12% ($\$300,000 \times .71178$) | \$213,534 |
| Present value of interest \$30,000 paid annually for 3 years at 12% ($\$30,000 \times 2.40183$) | <u>72,055</u> |
| Fair value of note | <u>\$285,589</u> |

**AMORTIZATION SCHEDULE AFTER DEBT MODIFICATION
MARKET INTEREST RATE 12%**

| Date | Cash Paid | Interest Expense | Amortization | Carrying Value |
|-----------------|----------------------|-----------------------------|---------------------|---------------------------|
| 12/31/10 | — | — | — | \$285,589 |
| 12/31/11 | \$ 30,000 | \$34,271* | \$ 4,271 | 289,860 |
| 12/31/12 | 30,000 | 34,783 | 4,783 | 294,643 |
| 12/31/13 | 30,000 | 35,357 | 5,357 | 300,000 |

***\$34,271 = \$285,589 X 12%.**

***PROBLEM 14-13 (Continued)**

(b)

December 31, 2010

| | | |
|--------------------------------------|---------|---------|
| Interest Payable | 33,000 | |
| Note Payable (Old) | 300,000 | |
| Gain on Extinguishment of Debt | | 47,411* |
| Note Payable (New) | | 285,589 |

***(\$300,000 + \$33,000) – \$285,589**

December 31, 2011

| | | |
|------------------------|--------|--------|
| Interest Expense | 34,271 | |
| Note Payable | | 4,271 |
| Cash | | 30,000 |

December 31, 2012

| | | |
|------------------------|--------|--------|
| Interest Expense | 34,783 | |
| Note Payable | | 4,783 |
| Cash | | 30,000 |

| |
|----------------------|
| PROBLEM 14-14 |
|----------------------|

(a) **Langley Co.**

| | |
|-----------------------------------------------|------------------|
| Carrying amount of the bonds on 1/1/10 | \$656,992 |
| Effective-interest rate (10%)..... | <u>X 0.10</u> |
| Interest expense to be reported for 2010..... | <u>\$ 65,699</u> |

(b) **Tweedie Building Co.**

Maturities and sinking fund requirements on long-term debt for the next five year are as follows:

| | | | |
|------|-----------|------|-----------|
| 2011 | \$400,000 | 2014 | \$200,000 |
| 2012 | 350,000 | 2015 | 350,000 |
| 2013 | 200,000 | | |

(c) **Beckford Inc.**

Since the three bonds reported by Beckford Inc. are secured by either real estate, securities of other corporations, or plant equipment, none of the bonds are classified as debenture bonds.

TIME AND PURPOSE OF CONCEPTS FOR ANALYSIS

CA 14-1 (Time 25–30 minutes)

Purpose—to provide the student with some familiarity with the economic theory which relates to the accounting for a bond issue. The student is required to discuss the conceptual merits for each of the three different statement of financial position presentations for the same bond issue, and the merits for utilizing the nominal rate versus the effective rate at date of issue in the computation of the carrying value of the obligations arising from a bond issue.

CA 14-2 (Time 10–15 minutes)

Purpose—to provide the student with an understanding of the various accounts which are generated in a bond issue and their proper classifications on the statement of financial position. Justification must be provided for the treatment accorded these accounts in relation to the specifics of this case.

CA 14-3 (Time 15–25 minutes)

Purpose—this case includes discussions of the determination of the selling price of bonds, presentation of items related to bonds on the statement of financial position and the income statement, whether discount amortization increases or decreases, and how an early retirement of bonds should be reported on the income statement.

CA 14-4 (Time 20–25 minutes)

Part I—Purpose—to provide the student with an understanding of the use of the effective-interest method of amortization.

Part II—Purpose—to provide the student with some familiarity with the various methods of accounting for gains and losses from the early extinguishment of debt, and the justifications for each of the different methods.

CA 14-5 (Time 20–30 minutes)

Purpose—the student is asked to explain project financing arrangements, take-or-pay contracts, off-balance-sheet financing, and the conditions for which a contractual obligation is to be disclosed as an unconditional purchase obligation. The case also requires the student to determine accounting treatment for a project financing arrangement.

CA 14-6 (Time 20–30 minutes)

Purpose—to provide the student with an opportunity to examine the ethical issues related to the issue of bonds.

SOLUTIONS TO CONCEPTS FOR ANALYSIS

CA 14-1

- (a) 1. This is a common statement of financial position presentation and has the advantage of being familiar to users of financial statements. The total of \$1,085,800 is the objectively determined exchange price at which the bonds were issued. It represents the fair value of the bond obligations given. Thus, this is in keeping with the usual accounting practice of using exchange prices as a primary source of data.
2. This presentation indicates the dual nature of the bond obligations. There is an obligation to make periodic payments of \$55,000 and an obligation to pay the \$1,000,000 at maturity. The amounts presented on the statement of financial position are the present values of each of the future obligations discounted at the initial effective rate of interest.

The proper emphasis is placed upon the accrual concept, that is, that interest accrues through the passage of time. The emphasis upon premiums and discounts is eliminated.

3. This presentation shows the total liability which is incurred in a bond issue, but it ignores the time value of money. This would be a fair presentation of the bond obligations only if the effective-interest rate were zero.
- (b) When an entity issues interest-bearing bonds, it normally accepts two types of obligations: (1) to pay interest at regular intervals and (2) to pay the principal at maturity. The investors who purchase Nichols Company bonds expect to receive \$55,000 each January 1 and July 1 through January 1, 2031 plus \$1,000,000 principal on January 1, 2031. Since this (\$55,000) is more than the 10% per annum (\$50,000 semiannually) that the investors would be willing to accept on an investment of \$1,000,000 in these bonds, they are willing to bid up the price—to pay a premium for them. The amount that the investors should be willing to pay for these future cash flows depends upon the interest rate that they are willing to accept on their investment(s) in this security.

The amount that the investors are willing to pay (and the issuer is willing to accept), \$1,085,800, is the present value of the future cash flows discounted at the rate of interest that they will accept.

Another way of viewing this is that the \$1,085,800 is the amount which, if invested at an annual interest rate of 10% compounded semiannually, would allow withdrawals of \$55,000 every six months from July 1, 2011 through January 1, 2031 and \$1,000,000 on January 1, 2031.

Even when bonds are issued at their maturity value, the price paid coincides with the maturity value because the coupon rate is equal to the effective rate. If the bonds had been issued at their maturity value, the \$1,000,000 would be the present value of future interest and principal payments discounted at an annual rate of 11% compounded semiannually.

Here the effective rate of interest is less than the coupon rate, so the price of the bonds is greater than the maturity value. If the effective rate of interest was greater than the coupon rate, the bonds would sell for less than the maturity value.

- (c) 1. The use of the coupon rate for discounting bond obligations would give the face value of the bond at January 1, 2011, and at any interest-payment date thereafter. Although the coupon rate is readily available while the effective rate must be computed, the coupon rate may be set arbitrarily at the discretion of management so that there would be little or no support for accepting it as the appropriate discount rate.

CA 14-1 (Continued)

2. The effective-interest rate at January 1, 2011 is the market rate to Nichols Company for long-term borrowing. This rate gives a discounted value for the bond obligations, which is the amount that could be invested at January 1, 2011 at the market rate of interest. This investment would provide the sums needed to pay the recurring interest obligation plus the principal at maturity. Thus, the effective-interest rate is objectively determined and verifiable.

The market or yield rate of interest at the date of issue should be used throughout the life of the bond because it reflects the interest obligation which the issuer accepted at the time of issue. The resulting value at the date of issue was the current value at that time and is similar to historical cost. Also, this yield rate is objectively determined in an exchange transaction.

The continued use of the issue-date yield rate results in a failure to reflect whether the burden is too high or too low in terms of the changes which may have taken place in the interest rate.

- (d) Using a current yield rate produces a current value, that is, the amount which could currently be invested to produce the desired payments. When the current yield rate is lower than the rate at the issue date (or than at the previous valuation date), the liabilities for principal and interest would increase. When the current yield is higher than the rate at the issue date (or at the previous valuation date), the liabilities would decrease. Thus, holding gains and losses could be determined. If the debt is held until maturity, the total of the interest expense and the holding gains and losses under this method would equal the total interest expense using the yield rate at issue date.

CA 14-2

1. Use of the asset requires a depreciation charge in each year of use. This in turn requires carrying the equipment as an asset. The company has contracted to purchase the equipment and, thus, has a real liability which affects financial condition and must be shown.
2. The obligation of a company is to its bondholders, not to the trustee. Until the bondholders have received payment, the company still has a liability.

(Note to instructor: The student may have difficulty with this statement because this type of situation was not discussed in the chapter. It therefore provides an opportunity to emphasize that payment to an agent or trustee does not constitute payment of the liability for bond interest. When the trustee dispenses the funds to bondholders, the liability should be reduced. A separate Bond Interest Fund account is established at the time payment is made to the trustee.)

CA 14-3

- (a) 1. The selling price of the bonds would be the present value of all of the expected net future cash outflows discounted at the effective annual interest rate (yield) of 11 percent. The present value is the sum of the present value of its maturity amount (face value) plus the present value of the series of future semiannual interest payments.
2. Immediately after the bond issue is sold, the current asset, cash, would be increased by the proceeds from the sale of the bond issue. A non-current liability, bonds payable, would be presented in the statement of financial position at the face value of the bonds net of the discount.

CA 14-3 (Continued)

- (b) The following item related to the bond issue would be included in Sealy's 2011 income statement:

Interest expense would be included for ten months (March 1, 2011, to December 31, 2011) at an effective-interest rate (yield) of 11 percent. This is composed of the nominal interest of 9 percent adjusted for the amortization of the related bond discount. Bond discount should be amortized using the effective-interest method over the period the bonds will be outstanding, that is, the period from the date of sale (March 1, 2011) to the maturity date (March 1, 2016).

- (c) The amount of bond discount amortization would be lower in the second year of the life of the bond issue. The effective-interest method of amortization uses a uniform interest rate based upon a changing carrying value which results in increasing amortization each year when there is a bond discount.
- (d) The retirement of the bonds would result in a loss from extinguishment of debt that should be included in the determination of net income and classified as an Other income and expense item.

CA 14-4

Part I.

Before the effective-interest method of amortization can be used, the effective yield or interest rate of the bond must be computed. The effective yield rate is the interest rate that will discount the two components of the debt instrument to the amount received at issuance. The two components in the value of a bond are the present value of the principal amount due at the end of the bond term and the present value of the annuity represented by the periodic interest payments during the life of the bond. Interest expense using the interest method is based upon the effective yield or interest rate multiplied by the carrying value of the bond (par value adjusted for unamortized premium or discount). The amount of amortization is the difference between recognized interest expense and the interest actually paid (par value multiplied by the nominal rate). When a premium is being amortized, the dollar amount of the periodic amortization will increase over the life of the instrument. This is due to the decreasing carrying value of the bond instrument multiplied by the constant effective-interest rate, which is subtracted from the amount of cash interest paid. In the case of a discount, the dollar amount of the periodic amortization will increase over the life of the bond. This is due to the increasing carrying value of the bond instrument multiplied by the constant effective-interest rate from which is subtracted the amount of cash interest paid.

CA 14-4 (Continued)

Part II.

- (a) 1. **Gain or loss to be amortized over the remaining life of old debt.** The basic argument supporting this method is that if refunding is done to obtain debt at a lower cash outlay (interest cost), then the gain or loss is truly a cost of obtaining the reduction in cash outlay. As such, the new rate of interest alone does not reflect the cost of the new debt, but a portion of the gain or loss on the extinguishment of the old instrument must be matched with the nominal interest to reflect the true cost of obtaining the new debt instrument. This argument states that this matching must continue for the unexpired life of the old debt in order to reflect the true nature of the transaction and cost of obtaining the new debt instrument.
2. **Gain or loss to be amortized over the life of the new debt instrument.** This argument states that the gain or loss from early extinguishment of debt actually affects the cost of obtaining a new debt instrument. However, this method asserts that the effect should be matched with the interest expense of the new debt for the entire life of the new debt instrument. This argument is based on the assumption that the debt was refunded to take advantage of new lower interest rates or to avoid projected high interest rates in the future and that any gain or loss on early extinguishment should be reflected as an element of this decision and total interest cost over the life of the new instrument should be stated to reflect this decision.
3. **Gain or loss recognized in the period of extinguishment.** Proponents of this method state that the early extinguishment of debt to be refunded actually does not differ from other types of extinguishment of debt where the consensus is that any gain or loss from the transaction should be recognized in full in current net earnings. The early extinguishment of the debt is prompted for the same reason that other debt instruments are extinguished, namely, that the value of the debt instrument has changed in light of current financial circumstances and early extinguishment of the debt would produce the most favorable results. Also, it is argued that any gain or loss on the extinguishment is directly related to market interest fluctuations related to prior periods. If the true market interest rate had been known at the time of issuance, there would be no gain or loss at the time of extinguishment. Also, even if market interest rates were not known but the carrying value of the bond was periodically adjusted to market, any gain or loss would be reflected at the interim dates and not in a future period. The call premium paid on extinguishment and any unamortized premium or discount are actually adjustments to the actual effective-interest rate over the outstanding life of the bond. As such, any gain or loss on the early extinguishment of debt is related to prior-period valuation differences and should be recognized immediately.
- (b) The immediate recognition principle is the only acceptable method of reflecting gains or losses on the early extinguishment of debt, and these amounts, if material, must be reflected as other income and expense.

CA 14-5

- (a) Such financing arrangements arise when (1) two or more entities form another entity to construct an operating plant that will be used by both parties; (2) the new entity borrows funds to construct the project and repays the debt from the proceeds received from the project; and (3) payment of the debt is guaranteed by the companies that formed the new entity.

CA 14-5 (Continued)

- (b) In some cases, project financing arrangements become more formalized through the use of take-or-pay contracts or similar types of contracts. In a simple take-or-pay contract, a purchaser of goods signs an agreement with the seller to pay specified amounts periodically in return for products or services. The purchaser must make specified minimum payments even if delivery of the contracted products or services is not taken.
- (c) Ryan should not record the plant as its asset. The plant is to be constructed and operated by ACC. Although Ryan agrees to purchase all of the cans produced by ACC, Ryan does not have the property right to the plant, nor the right to use the plant.

Accounting for purchase commitments is unsettled and controversial. Some argue that these contracts should be reported as assets and liabilities at the time the contract is signed; others believe that our present recognition at the delivery date is most appropriate.

Note that a purchase commitment involves both an item that might be recorded as an asset and an item that might be recorded as a liability. That is, it involves both a right to receive assets and an obligation to pay . . . If both the right to receive assets and the obligation to pay were recorded at the time of the purchase commitment, the nature of the loss and the valuation account that records it when the price falls would be clearly seen.

Although the discussion does not exclude the possibility of recording assets and liabilities for purchase commitments, it contains no conclusions or implications about whether they should be recorded.

According to current practice, Ryan does not record an asset relating to the future purchase commitment. However, if the dollar amount involved is material, the details of the contract should be disclosed in a footnote to the statement of financial position. In addition, if the contracted price is in excess of the purchase market price and it is expected that losses will occur when the purchase is effected, losses should be recognized in the accounts in the period during which such declines in prices take place.

- (d) Off-balance-sheet financing is an attempt to borrow monies in such a way that the obligations are not recorded in a company's statement of financial position. The reasons for off-balance-sheet financing are many. First, many believe that removing debt or otherwise keeping it from the statement of financial position enhances the quality of the statement of financial position and permits credit to be obtained more readily and at less cost. Second, loan covenants often impose a limitation on the amount of debt a company may have. As a result, off-balance-sheet financing is used because these types of commitments might not be considered in computing the debt limitation. Third, it is argued by some that the asset side of the statement of financial position is severely understated because of the use of certain accounting methods (like accelerated depreciation methods). As an offset to these lower values, some believe that part of the debt does not have to be reported.

Note to instructor: Additional discussion of these type arrangements is presented in Appendix 17B related to variable interest entities.

CA 14-6

- (a) The stakeholders in the Wichita case are:
 - Donald Lennon, president, founder, and majority shareholder.
 - Nina Friendly, minority shareholder.
 - Other minority shareholders.
 - Existing creditors (debt holders).
 - Future bondholders.
 - Employees, suppliers, and customers.

CA 14-6 (Continued)

- (b) The ethical issues:

The desires of the majority shareholder (Donald Lennon) versus the desires of the minority shareholders (Nina Friendly and others).

Doing what is right for the company and others versus doing what is best for oneself.

Questions:

Is what Donald wants to do legal? Is it unethical? Is Donald's action brash and irresponsible? Who may benefit/suffer if Donald arranges a high-risk bond issue? Who may benefit/suffer if Nina Friendly gains control of Wichita?

- (c) The rationale provided by the student will be more important than the specific position because this is a borderline case with no *right* answer.

FINANCIAL REPORTING PROBLEM

- (a) According to the maturity of borrowings note (Note 21), timing of cash flows are:

| | |
|----------------------------------|-----------------|
| Within one year | £1,046.6 |
| Between one and two years | 203.7 |
| Between two and five years | 1,330.8 |
| More than £5 years | <u>2,800.4</u> |
| | <u>£5,381.5</u> |

- (b) (Amounts in £ millions)

1. Working capital = Current assets less current liabilities.

$$(\text{£}807.2) = \text{£}1,181.7 - \text{£}1,988.9$$

2. Acid-test ratio =
$$\frac{\text{Cash} + \text{short-term investments} + \text{net receivables}}{\text{Current liabilities}}$$

$$.35 \text{ times} = \frac{\text{£}318.0 + \text{£}307.6 + \text{£}48.8 + \text{£}18.4}{\text{£}1,988.9}$$

3. Current ratio =
$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

$$.59 \text{ times} = \frac{\text{£}1,181.7}{\text{£}1,988.9}$$

M&S has a fairly weak liquidity position. The current ratio is below 1. The acid-test ratio is significantly below 1, possibly due to a slowing economy.

FINANCIAL REPORTING PROBLEM (Continued)

The other ratio analysis below corroborates M&S's relatively weak financial position in 2008.

$$\begin{aligned}\text{Receivables turnover} &= \frac{\text{Net sales}}{\text{Average receivables}} \\ &= \frac{£9,022.0}{\frac{£196.7 + £307.6}{2}} \\ &= 35.78 \text{ times}\end{aligned}$$

$$\begin{aligned}\text{Inventory turnover} &= \frac{\text{Cost of goods sold}}{\text{Average inventory}} \\ &= \frac{£5,535.2}{\frac{£416.3 + £488.9}{2}} \\ &= 12.23 \text{ times}\end{aligned}$$

$$\begin{aligned}\text{Current cash debt coverage ratio} &= \frac{\text{Net cash provided by operating activities}}{\text{Average current liabilities}} \\ &= \frac{£1,069.8}{\frac{£1,606.2 + £1,988.9}{2}} \\ &= .60 \text{ times}\end{aligned}$$

FINANCIAL REPORTING PROBLEM (Continued)

$$\begin{aligned}\text{Cash debt coverage ratio} &= \frac{\text{Net cash provided by operating activities}}{\text{Average total liabilities}} \\ &= \frac{£1,069.8}{\frac{£3,732.8 + £5,197.0}{2}} \\ &= .24 \text{ times}\end{aligned}$$

$$\text{Debt to total assets} = \frac{£5,197.0}{£7,161.0} = .73$$

$$\begin{aligned}\text{Time interest earned} &= \frac{\text{Income before income taxes and interest expense}}{\text{Interest expense}} \\ &= \frac{£821.0 + £308.1 + £146.6}{£146.6} \\ &= 8.70 \text{ times}\end{aligned}$$

Similar to M&S's liquidity position, the company's solvency also appears weak. It has low coverage of its current and non-current liabilities. However, its interest coverage appears adequate. Industry and year-to-year comparisons should also be employed.

In summary, the analysis of liquidity and solvency is suggestive of weakened financial flexibility. It is likely that many companies are experiencing similar challenges in the wake of the recent general economic downturn.

COMPARATIVE ANALYSIS CASE

(a) Debt to total assets ratio:

| | |
|----------------|---------------------------------|
| Cadbury | $£5,361/£8,895 = 60.3\%$ |
| Nestlé | $CHF51,299/CHF106,215 = 48.3\%$ |

Times interest earned ratio:

| | |
|----------------|-------------------------------------------------------------------|
| Cadbury | $(£366 + £30 + £50)/ £50 = 8.92 \text{ times}$ |
| Nestlé | $(CHF19,051 + CHF3,787 + CHF1,247)/CHF1,247 = 19.3 \text{ times}$ |

The debt to total assets ratios of over 48% for both Cadbury and Nestlé show both companies to be highly leveraged, Cadbury more so than Nestlé. The times interest earned ratios show that interest expense is quite adequately covered by the firms' net income; Nestlé coverage is more than good; it is superb, especially considering the debt to total assets ratio of 48%.

| | <u>Carrying Value</u> | <u>Fair Value</u> |
|----------------|-----------------------|-------------------|
| Cadbury | £2,385 | £2,387 |
| Nestlé | N/A | N/A |

The fair value will vary from the historical cost carrying value due to changes in interest rates.

(c) Both Cadbury and Nestlé have debt issued in foreign countries. These companies may use foreign debt because

- 1. Lower interest rates may be available in foreign countries.**
- 2. Credit may be more readily available in foreign countries.**

COMPARATIVE ANALYSIS CASE (Continued)

Using foreign debt to finance operations is subject to the risk of foreign currency exchange rate fluctuations. Both Cadbury and Nestlé enter into interest rate and foreign currency swaps to effectively change the interest rate and currency of specific debt issuances. These swaps are generally entered into concurrently with the issuance of the debt they are intended to modify.

COMMONWEALTH EDISON CO.

- (a) Due to the markdown from 99.803 to 99.25, Commonwealth Edison would record a slightly larger discount and, of course, receive and record less cash. Amortization of the larger discount will result in a larger interest expense charge in each year the bonds are outstanding. As a result of the additional \$5.50 markdown, the effective-interest rate increased from 9.3% to 9.45%.
- (b) In the same *Wall Street Journal* article, the following explanation was provided for Commonwealth Edison's bond markdown and slow sale:

“Commonwealth had the misfortune to begin its giant offering only hours before investor sentiment was soured by the report last Thursday of a record increase in the nation's money supply. The monetary surge, plus a recent rebound in industrial productivity reported Friday, halted the market rally triggered in early May by signs of an economic slowdown and a peaking of interest rates.”

Other economic events that can and do affect the price of securities issued are:

1. A change in the Federal Reserve's lending rate.
2. A change in the bank prime rate.
3. A flood of other similar securities issues.
4. A good or poor earnings report for the issuer.
5. A change in the issuer's credit rating.
6. The issuance of a favorable or unfavorable broker's or other financial analysis.

FINANCIAL STATEMENT ANALYSIS CASE 1 (Continued)

Of course, noneconomic, political, or other world events can also affect the day-to-day sale of securities.

The “recent rebound in industrial productivity” mentioned in the article would normally not be a depressant on a securities issue; but because the financial community was anticipating, even hoping for, a recession to “cool off the economy” and, thus, lower the then existing high interest rates, the rebound represented a delay in the recession and the lowering of interest rates.

FINANCIAL STATEMENT ANALYSIS CASE 2

PEPSICO

- (a) Answers will vary. The company may have decided to refinance in order to free cash needed for some other purpose, to reduce current cash needs, or to leave a credit line available for quick access.
- (b) The investor probably enjoys a higher interest rate than that obtained from other types of bonds. Also, a smaller initial investment is required.

| | | |
|---------------------|-------------|-------------|
| Bonds Payable | 780,000,000 | |
| Cash | | 780,000,000 |

This bond would be listed in current liabilities in the year prior to the year of payment.

(c)

| | | |
|-----------------------------------------------------------|-------------|-------------|
| Cash [(\$250,000,000 X 1.02) + (\$95,000,000 X .99)]..... | 349,050,000 | |
| Bonds Payable..... | | 349,050,000 |

OR the two bonds could be shown separately:

| | | |
|--------------------|-------------|-------------|
| Cash | 255,000,000 | |
| Bonds Payable..... | | 255,000,000 |

and

| | | |
|--------------------|------------|------------|
| Cash | 94,050,000 | |
| Bonds Payable..... | | 94,050,000 |

Possible reasons for the difference could be that the stated interest rate on the Australian bond was very attractive to Australian investors, therefore it sold at a premium; and the interest rate on the Italian bond was unattractive to Italian investors, so it sold at a discount.

FINANCIAL STATEMENT ANALYSIS CASE 2 (Continued)

- (d) Answers will vary. One advantage would be that it is a bond whose principal may not need to be paid in the foreseeable future.

| | | |
|-------------------------------------------|-------------|-------------|
| Current Portion of Non-Current Debt | 100,000,000 | |
| Non-Current Debt | | 100,000,000 |

No journal entry is necessary to record the change in interest rate.

ACCOUNTING, ANALYSIS, AND PRINCIPLES

ACCOUNTING

Bond calculations:

$$\begin{aligned}\text{PV of bonds at issuance} &= (\text{€}1,500 \times \text{PVF}_{10,6}) + (\text{€}1,500 \times 0.05 \times \text{PVF} - \text{OA}_{10,6}) \\ &= (\text{€}1,500)(0.55839) + (\text{€}1,500)(0.05)(7.36009) \\ &= \text{€}837.59 + \text{€}552.01 \\ &= \text{€}1,389.60\end{aligned}$$

$$\text{Interest expense for 6 months ending 06/30/11} = (\text{€}1,426 \times 0.06) = \text{€}85.56$$

$$\text{Interest paid with cash} = (\text{€}1,500 \times 0.05) = \text{€}75.00$$

$$\begin{aligned}\text{Statement of financial position value at 06/30/11} &= \text{€}1,426 + \text{€}85.56 - \text{€}75.00 \\ &= \text{€}1,436.56\end{aligned}$$

$$\text{Interest expense for 6 months ending 12/31/11} = (\text{€}1,436.56 \times 0.06) = \text{€}86.19$$

$$\text{Interest paid with cash} = \text{€}75.00$$

$$\begin{aligned}\text{Statement of financial position value at 12/31/11} &= \text{€}1,436.56 + \text{€}86.19 - \\ &\quad \text{€}75.00 = \text{€}1,447.75\end{aligned}$$

BUGANT, INC. INCOME STATEMENT for the yeared ended 12/31/11

| | | |
|----------------------|-------|-------------|
| Sales | | €2,922 |
| Expenses: | | |
| COGS | 1,900 | |
| Salary Expense | 700 | |
| Depreciation Expense | 80 | |
| Interest Expense | 172 | 2,852 |
| Net Income | | <u>€ 70</u> |

Income statement calculations:

$$\text{COGS} = \text{€}1,800 + \text{€}2,000 - \text{€}1,900 = \text{€}1,900$$

$$\text{Depreciation expense} = \text{€}2,000 \div 25 = \text{€}80$$

$$\text{Interest expense} = \text{€}85.56 + \text{€}86.19 = \text{€}171.75$$

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

BUGANT, INC. STATEMENT OF FINANCIAL POSITION DECEMBER 31

| | <u>2011</u> | <u>2010</u> | | <u>2011</u> | <u>2010</u> |
|-------------------|---------------|---------------|----------------------------|---------------|---------------|
| Assets | | | Equity | | |
| Plant, and equip. | €2,000 | €2,000 | Share capital | €1,500 | €1,500 |
| Accumulated dep. | (240) | (160) | Retained earnings | 1,134 | 1,164 |
| Inventory | 1,900 | 1,800 | Liabilities | | |
| Cash | <u>422</u> | <u>450</u> | Bonds payable | <u>1,448</u> | <u>1,426</u> |
| Total Assets | <u>€4,082</u> | <u>€4,090</u> | Total equity & liabilities | <u>€4,082</u> | <u>€4,090</u> |

Statement of financial position calculations:

Cash = €450 + €2,922 – €2,000 – €700 – €100 – €75 – €75 = €422

Accumulated depreciation = €160 + €80 = €240

Retained earnings = €1,164 + €70 – €100 = €1,134

ANALYSIS

Debt-to-asset ratio:

2010: $€1,426 \div €4,090 = 0.3487$ or 34.87 percent of Bugant's assets were financed with debt.

2011: $€1,448 \div €4,082 = 0.3547$ or 35.47 percent.

Times interest earned ratio:

2010: $(€550 + €169) \div €169 = 4.25$

2011: $(€70 + €172) \div €172 = 1.41$

Less than half of Bugant's financing comes from debt, which is relatively low. In 2010, Bugant earned four-and-a-quarter times its interest expense. However, in 2011, the company's earnings fell considerably and it is now barely covering its interest charges. This would be cause for considerable concern. If income continues to slide, the company will likely have trouble meeting its interest payments.

ACCOUNTING, ANALYSIS, AND PRINCIPLES (Continued)

Note that interest expense in this problem is larger than the company's yearly cash interest payments. Cash payments for interest are €150 per year. Thus, one might argue the times interest earned ratio 'understates' the company's ability to make interest payments. Essentially, the company is delaying the payment of some of the interest each year until the bond's maturity date. With the company's current cash balance and low income, one would have to question the company's ability to meet its obligation on the maturity date when it arrives.

PRINCIPLES

One could argue that this represents a classic trade-off between relevance and faithful representation. Many people think that the fair values of companies' assets and liabilities are relevant to making investing and financing decisions. However, the determination of fair value is the responsibility of management. Management may have incentives to 'skew' reported fair value numbers one direction or the other. For example, in this case, changes in the fair value of debt would be part of the period's net income. Thus, management may have an incentive to bias their estimate of the fair values of their debt.

On the other hand, one might argue that fair values of debt are not really relevant if the company will not pay off the debt early.

According to IAS 39:

(a) *Initial measurement of financial assets and financial liabilities*

When a financial asset or financial liability is recognised initially, an entity shall measure it at its fair value plus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability. (para. 43)

(b) *Derecognition of a financial liability*

An entity shall remove a financial liability (or a part of a financial liability) from its statement of financial position when, and only when, it is extinguished—ie when the obligation specified in the contract is discharged or cancelled or expires. (para. 39)

An exchange between an existing borrower and lender of debt instruments with substantially different terms shall be accounted for as an extinguishment of the original financial liability and the recognition of a new financial liability. Similarly, a substantial modification of the terms of an existing financial liability or a part of it (whether or not attributable to the financial difficulty of the debtor) shall be accounted for as an extinguishment of the original financial liability and the recognition of a new financial liability. (para. 40)

The difference between the carrying amount of a financial liability (or part of a financial liability) extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, shall be recognised in profit or loss. (para. 41)

PROFESSIONAL SIMULATION

Journal Entries

April 1, 2009

| | | |
|---------------------|---------------|--------------|
| Cash | 5,307,228.36* | |
| Bonds Payable | | 5,307,228.36 |

*Price using Tables:

$$\begin{aligned} \$5,000,000 \times .38554 &= \$1,927,700 \\ 550,000 \times 6.14457 &= \underline{3,379,514} \\ &= \underline{\$5,307,214} \end{aligned}$$

Difference due to rounding in tables.

April 1, 2010

| | | |
|-----------------------|------------|------------|
| Interest Payable..... | 550,000.00 | |
| Cash | | 550,000.00 |

Note: Entry made on March 31, 2010:

| | | |
|------------------------|------------|------------|
| Interest Expense | 530,722.84 | |
| Bond Payable | 19,277.16 | |
| Interest Payable | | 550,000.00 |

Resources

| | A | B | C | D | E | F | G | H | I | J | K | L |
|----|---------------|---|-------------|---|------------------|---|-------------------|---|--------------------------|---|---|---|
| 1 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | Date | | Cash Paid | | Interest Expense | | Premium Amortized | | Carrying Amount of Bonds | | | |
| 11 | April 1, 2009 | | | | | | | | \$5,307,228.36 | | | |
| 12 | April 1, 2010 | | \$550,000 | | \$530,722.84 | | \$19,277.16 | | 5,287,951.19 | | | |
| 13 | April 1, 2011 | | 550,000 | | 528,795.12 | | 21,204.88 | | 5,266,746.31 | | | |
| 14 | April 1, 2012 | | 550,000 | | 526,674.63 | | 23,325.37 | | 5,243,420.94 | | | |
| 15 | April 1, 2013 | | 550,000 | | 524,342.09 | | 25,657.91 | | 5,217,763.03 | | | |
| 16 | April 1, 2014 | | 550,000 | | 521,776.30 | | 28,223.70 | | 5,189,539.34 | | | |
| 17 | April 1, 2015 | | 550,000 | | 518,953.93 | | 31,046.07 | | 5,158,493.27 | | | |
| 18 | April 1, 2016 | | 550,000 | | 515,849.33 | | 34,150.67 | | 5,124,342.60 | | | |
| 19 | April 1, 2017 | | 550,000 | | 512,434.26 | | 37,565.74 | | 5,085,776.86 | | | |
| 20 | April 1, 2018 | | 550,000 | | 508,677.69 | | 41,322.31 | | 5,045,454.54 | | | |
| 21 | April 1, 2019 | | 550,000 | | 504,545.45 | | 45,454.55 | | 5,000,000.00 | | | |
| 22 | | | \$5,500,000 | | \$5,192,771.64 | | \$307,228.36 | | | | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |

PROFESSIONAL SIMULATION (Continued)

Financial Statements

BALZAC INC.

Statement of Financial Position as of March 31, 2010

Non-current liabilities

| | |
|---------------------------------------------------|--------------------|
| 11% bonds payable (Note A) | \$5,287,951 |
| Asset retirement obligation, warehouse site | 35,000 |
| Notes payable (Note B) | <u>1,100,000</u> |
| Total non-current liabilities | <u>\$6,422,951</u> |

Note A—Bonds The 11% bonds call for annual interest payments on each April 1. The bonds mature on April 1, 2019.

Note B—Notes Payable The current liabilities include current maturities of several notes payable. The long-term notes payable mature as follows.

| <u>Due Date</u> | <u>Amount Due</u> |
|--------------------------------|-------------------|
| April 1, 2011 – March 31, 2012 | \$600,000 |
| April 1, 2012 – March 31, 2013 | 500,000 |

