

Cost Accounting, 14e (Horngren/Datar/Rajan)
Chapter 1 The Accountant's Role in the Organization

Objective 1.1

1) Management accounting:

A) focuses on estimating future revenues, costs, and other measures to forecast activities and their results

B) provides information about the company as a whole

C) reports information that has occurred in the past that is verifiable and reliable

D) provides information that is generally available only on a quarterly or annual basis

Answer: A

Diff: 2

Terms: treasury

Objective: 1

AACSB: Reflective thinking

2) Managers use management accounting information to _____ strategy.

A) choose

B) communicate

C) implement

D) All of these answers are correct.

Answer: D

Diff: 1

Terms: total quality management (TQM)

Objective: 1

AACSB: Analytical skills

3) Financial accounting:

A) focuses on the future and includes activities such as preparing next year's operating budget

B) must comply with GAAP (generally accepted accounting principles)

C) reports include detailed information on the various operating segments of the business such as product lines or departments

D) is prepared for the use of department heads and other employees

Answer: B

Diff: 2

Terms: financial accounting

Objective: 1

AACSB: Reflective thinking

4) The person most likely to use ONLY financial accounting information is a:

- A) factory shift supervisor
- B) vice president of operations
- C) current shareholder
- D) department manager

Answer: C

Diff: 1

Terms: financial accounting

Objective: 1

AACSB: Analytical skills

5) Which of the following people is LEAST likely to use management accounting information?

- A) the controller
- B) a shareholder evaluating a stock investment
- C) the treasurer
- D) an assembly department supervisor

Answer: B

Diff: 1

Terms: treasury

Objective: 1

AACSB: Analytical skills

6) Financial accounting provides the primary source of information for:

- A) decision making in the finishing department
- B) improving customer service
- C) preparing the income statement for shareholders
- D) planning next year's operating budget

Answer: C

Diff: 2

Terms: financial accounting

Objective: 1

AACSB: Reflective thinking

7) Which of the following descriptors refers to management accounting information?

- A) It is verifiable and reliable.
- B) It is driven by rules.
- C) It is prepared for shareholders.
- D) It provides reasonable and timely estimates.

Answer: D

Diff: 2

Terms: treasury

Objective: 1

AACSB: Reflective thinking

8) Which of the following statements refers to management accounting information?

- A) There are no regulations governing the reports.
- B) The reports are generally delayed and historical.
- C) The audience tends to be stockholders, creditors, and tax authorities.
- D) It primarily measures and records business transactions.

Answer: A

Diff: 2

Terms: treasury

Objective: 1

AACSB: Reflective thinking

9) Which of the following groups would be LEAST likely to receive detailed management accounting reports?

- A) stockholders
- B) sales representatives
- C) production supervisors
- D) managers

Answer: A

Diff: 1

Terms: treasury

Objective: 1

AACSB: Analytical skills

10) Management accounting information includes:

- A) tabulated results of customer satisfaction surveys
- B) the cost of producing a product
- C) the percentage of units produced that are defective
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: treasury

Objective: 1

AACSB: Reflective thinking

11) Cost accounting:

- A) provides information on the efficiency of factory labor
- B) provides information on the cost of servicing commercial customers
- C) provides information on the performance of an operating division
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: cost accounting

Objective: 1

AACSB: Reflective thinking

12) Which of the following types of information are used in management accounting?

- A) financial information
- B) nonfinancial information
- C) information focused on the long term
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: treasury

Objective: 1

AACSB: Reflective thinking

13) Modern cost accounting plays a role in:

- A) planning new products
- B) evaluating operational processes
- C) controlling costs
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: cost accounting

Objective: 1

AACSB: Reflective thinking

14) A data warehouse or infobarn:

- A) is reserved for exclusive use by the CFO
- B) is primarily used for financial reporting purposes
- C) stores information used by different managers for multiple purposes
- D) gathers only nonfinancial information

Answer: C

Diff: 1

Terms: cost accounting

Objective: 1

AACSB: Reflective thinking

15) Cost accounting provides all of the following EXCEPT:

- A) information for management accounting and financial accounting
- B) pricing information from marketing studies
- C) financial information regarding the cost of acquiring resources
- D) nonfinancial information regarding the cost of operational efficiencies

Answer: B

Diff: 2

Terms: cost accounting

Objective: 1

AACSB: Reflective thinking

16) Management accounting includes all of the following EXCEPT

- A) implementing strategies
- B) developing budgets
- C) preparing special studies and forecasts
- D) preparing the statement of cash flows

Answer: D

Diff: 1

Terms: treasury

Objective: 1

AACSB: Reflective thinking

17) Financial accounting is concerned primarily with:

- A) external reporting to investors, creditors, and government authorities
- B) cost planning and cost controls
- C) profitability analysis
- D) providing information for strategic and tactical decisions

Answer: A

Diff: 2

Terms: financial accounting

Objective: 1

AACSB: Reflective thinking

18) Financial accounting provides a historical perspective, whereas management accounting emphasizes:

- A) the future
- B) past transactions
- C) a current perspective
- D) reports to shareholders

Answer: A

Diff: 1

Terms: financial accounting

Objective: 1

AACSB: Reflective thinking

19) An Enterprise Resource Planning System can best be described as:

- A) a collection of programs that use a variety of unconnected databases
- B) a single database that collects data and feeds it into applications that support each of the company's business activities, such as purchases, production, distribution, and sales
- C) a database that is primarily used by a purchasing department to determine the correct amount of a particular supply item to purchase
- D) a sophisticated means of linking two or more companies to facilitate their planning processes

Answer: B

Diff: 1

Terms: cost accounting

Objective: 1

AACSB: Use of Information Technology

20) The approaches and activities of managers in short-run and long-run planning and control decisions that increase value for customers and lower costs of products and services are known as:

- A) value chain management
- B) enterprise resource planning
- C) cost management
- D) customer value management

Answer: C

Diff: 1

Terms: cost management

Objective: 1

AACSB: Analytical skills

21) Management accounting information focuses on external reporting.

Answer: FALSE

Explanation: Management accounting information focuses on *internal* reporting.

Diff: 1

Terms: treasury

Objective: 1

AACSB: Reflective thinking

22) Cost management is narrowly focused on a continuous reduction of costs.

Answer: FALSE

Explanation: Cost management is broadly focused to provide information that helps managers at all levels implement, monitor, and evaluate company strategies.

Diff: 2

Terms: cost management

Objective: 1

AACSB: Analytical skills

23) Managers always require the information in an accounting system to be presented in the same format.

Answer: FALSE

Explanation: Individual managers often require the information in an accounting system to be presented or reported differently.

Diff: 1

Terms: treasury

Objective: 1

AACSB: Analytical skills

24) Modern cost accounting takes the perspective that collecting cost information is a function of the management decisions being made.

Answer: TRUE

Diff: 1

Terms: cost accounting

Objective: 1

AACSB: Analytical skills

25) The balance sheet, income statement, and statement of cash flows are used for financial accounting, and also for management accounting.

Answer: TRUE

Diff: 1

Terms: financial accounting

Objective: 1

AACSB: Analytical skills

26) Financial accounting is broader in scope than management accounting.

Answer: FALSE

Explanation: Management accounting is broader in scope than financial accounting.

Diff: 2

Terms: financial accounting, management accounting

Objective: 1

AACSB: Reflective thinking

27) Cost accounting measures and reports short-term, long-term, financial, and non financial information.

Answer: TRUE

Diff: 2

Terms: cost accounting

Objective: 1

AACSB: Reflective thinking

28) Cost management provides information that helps increase value for customers.

Answer: TRUE

Diff: 1

Terms: cost management

Objective: 1

AACSB: Reflective thinking

29) Management accounting has to strictly follow the rules of generally accepted accounting principles for the purposes of measurement and reporting.

Answer: FALSE

Explanation: Internal measures and reports do not have to follow GAAP.

Diff: 1

Terms: treasury

Objective: 1

AACSB: Ethical reasoning

30) An ideal database should store information in a way that allows different managers to access the information they need.

Answer: TRUE

Diff: 1

Terms: treasury

Objective: 1

AACSB: Reflective thinking

31) An Enterprise Resource Planning (ERP) System is a single database that collects data and feeds into applications that support each of the company's business activities, such as purchases, production, distribution, and sales.

Answer: TRUE

Diff: 1

Terms: treasury

Objective: 1

AACSB: Use of Information Technology

32) Cost accounting provides information only for management accounting purposes.

Answer: FALSE

Explanation: Cost accounting provides information for financial accounting as well as for management accounting purposes.

Diff: 1

Terms: cost accounting

Objective: 1

AACSB: Reflective thinking

33) Cost management involves long-term and short-term decisions that attempt to increase value for customers and lower costs of products or services.

Answer: TRUE

Diff: 1

Terms: cost management

Objective: 1

AACSB: Reflective thinking

34) For each report listed below, identify whether the major purpose of the report is for (1) routine internal reporting, (2) nonroutine internal reporting, or for (3) external reporting to investors and other outside parties.

Item:

- a. study detailing sale information of the top-ten selling products
- b. weekly report of total sales generated by each store in the metropolitan area
- c. annual Report sent to shareholders
- d. monthly report comparing budgeted sales by store to actual sales

Answer:

- a. (2) nonroutine internal reporting
- b. (1) routine internal reporting
- c. (3) external reporting to investors and other outside parties
- d. (1) routine internal reporting

Diff: 2

Terms: treasury

Objective: 1

AACSB: Analytical skills

35) Describe management accounting and financial accounting.

Answer: Management accounting provides information to internal decision makers of the business such as top executives, managers, sales representatives, and production supervisors. Its purpose is to help managers predict and evaluate future results. Reports are generated often and usually broken down into smaller reporting divisions such as department or product line. There are no rules to be complied with since these reports are for internal use only. Management accounting embraces more extensively such topics as the development and implementation of strategies and policies, budgeting, special studies and forecasts, influence on employee behavior, and nonfinancial as well as financial information.

Financial accounting, by contrast, provides information to external decision makers such as investors and creditors. Its purpose is to present a fair picture of the financial condition of the company. Reports are generated quarterly or annually and report on the company as a whole. The financial statements must comply with GAAP (generally accepted accounting principles). A CPA audits, or verifies, that the GAAP are being followed.

Diff: 2

Terms: treasury

Objective: 1

AACSB: Reflective thinking

36) Is financial accounting or management accounting more useful to an operations manager? Why?

Answer: Management accounting is more useful to an operations manager because management accounting reports operating results by department or unit rather than for the company as a whole, it includes financial as well as nonfinancial data such as on-time deliveries and cycle times, and it includes quantitative as well as qualitative data such as the type of rework that was needed on defective units.

Diff: 3

Terms: treasury

Objective: 1

AACSB: Reflective thinking

37) Is it possible to have an active cost management program without an Enterprise Resource Planning (ERP) System?

Answer: Yes, an active cost management program can occur without an Enterprise Resource Planning (ERP) System. Cost management is a philosophy that guides management in their short-run and long-run planning and control decisions that increase value for customers and lower costs of products and services. Cost management is not dependent on any particular system or database, but it is rather an overall philosophy of operation.

Diff: 2

Terms: cost management

Objective: 1

AACSB: Reflective thinking

38) What competitive advantage could a company obtain from a successful cost management program?

Answer: There are three broad outcomes from a successful cost management program: 1) costs are reduced with no loss in customer value. In this scenario, a company might gain a competitive advantage by lowering its price with no loss in profit, or maintain the same price and increase profit; 2) customer value is increased with no change in costs. This scenario might increase customer satisfaction resulting in increased customer loyalty and perhaps increase the overall demand for the product; 3) customer value might be increased while costs are reduced simultaneously. This scenario would result in the benefits described in both 1) and 2).

Diff: 2

Terms: cost management

Objective: 1

AACSB: Reflective thinking

Objective 1.2

1) Which of the following statements concerning an organization's strategy is NOT true?

- A) Strategy specifies how an organization matches its own capabilities with the opportunities in the marketplace to accomplish its objectives.
- B) Management accountants provide input to help managers formulate strategy.
- C) A good strategy will always overcome poor implementation.
- D) Businesses usually follow one of two broad strategies: offering a quality product at a low price, or offering a unique product or service priced higher than the competition.

Answer: C

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

2) Strategy specifies:

- A) how an organization matches its own capabilities with the opportunities in the marketplace
- B) standard procedures to ensure quality products
- C) incremental changes for improved performance
- D) the demand created for products and services

Answer: A

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

3) Which of the following is NOT one of the questions management accountants might attempt to help answer in the formulation of strategy?

- A) Who are our most important customers?
- B) What substitute products exist in the marketplace?
- C) Does the strategy comply with GAAP (Generally Accepted Accounting Principles)?
- D) Will adequate cash be available to implement the strategy?

Answer: C

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

4) Strategy is formulated by answering all of the following EXCEPT:

- A) Who are our most important customers?
- B) Is industry demand growing or shrinking?
- C) Will our external auditors certify our strategy?
- D) How sensitive are purchasers to price, quality, and service?

Answer: C

Diff: 3

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

5) In designing strategy, a company must match the opportunities and threats in the marketplace with:

- A) those of the CFO (Chief Financial Officer)
- B) its resources and capabilities
- C) branding opportunities
- D) capabilities of current suppliers

Answer: B

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

6) Which of the following statements about customer value is NOT true?

- A) Customer value is shown in a corporation's balance sheet.
- B) Creating value for customers is an important part of planning and implementing strategy.
- C) How our product delivers customer value should be determined as part of a company's strategy formulation.
- D) It is possible to simultaneously lower cost and increase customer value.

Answer: A

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

7) Strategy does NOT specify how an organization matches its capabilities with the opportunities in the marketplace.

Answer: FALSE

Explanation: Strategy specifies how an organization matches its own capabilities with the opportunities in the marketplace to accomplish its objectives.

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

8) Southwest Airlines is an example of a company that pursues a product differentiation strategy.

Answer: FALSE

Explanation: Southwest Airlines pursues a cost leadership strategy.

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

9) The best-designed strategies are valuable whether or not they are effectively implemented.

Answer: FALSE

Explanation: Implementation is essential or the strategy is useless.

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

10) The key to a company's success is creating value for customers while differentiating itself from its competitors.

Answer: TRUE

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

11) The key to a company's success is always to be the low cost producer in a particular industry.

Answer: FALSE

Explanation: The low cost producer in a particular industry will not necessarily be successful.

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

12) Companies generally follow one of two basic strategies: 1) providing a quality product or service at low prices, or 2) offering a unique product or service often priced higher than competing products.

Answer: TRUE

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

13) Management accountants should have little or no role in deciding on a company's strategy.

Answer: FALSE

Explanation: Management accountants should play a significant role in deciding on a company's strategy.

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

14) Companies can decide on an appropriate strategy based strictly on internally available information.

Answer: FALSE

Explanation: Companies must obtain external information as well as internal information to decide on an appropriate strategy.

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

15) Strategic cost management describes cost management that specifically focuses on strategic issues.

Answer: TRUE

Diff: 1

Terms: strategic cost management

Objective: 2

AACSB: Reflective thinking

16) Identifying a company's most important customers does NOT help formulate strategy.

Answer: FALSE

Explanation: Management accountants help formulate strategy by helping managers answer questions such as "Who are our most important customers, and how do we deliver value to them?"

Diff: 1

Terms: strategic cost management

Objective: 2

AACSB: Analytical skills

17) The best-designed strategies and the best-developed capabilities are useless unless they are effectively executed.

Answer: TRUE

Diff: 1

Terms: total quality management (TQM)

Objective: 2

AACSB: Analytical skills

18) Describe the major differences between management accounting and financial accounting for the following:

1. Primary users

2. Focus and emphasis

3. Rules of measurement and reporting

Answer:

1. The primary users of management accounting information are managers of the organization. The primary users of financial accounting are external users such as investors, banks, regulators, and suppliers.

2. Management accounting is future oriented. Financial accounting is past oriented.

3. Management accounting measurement and reporting does not have to follow GAAP but are based on cost-benefit analysis. Financial accounting measurement and reporting must be prepared in accordance with GAAP and be certified by external, independent auditors.

Diff: 2

Terms: financial accounting, management accounting

Objective: 2

AACSB: Analytical skills

19) What is strategy? Briefly describe the two broad types of strategies that companies may choose to pursue.

Answer: Strategy specifies how an organization matches its own capabilities with the opportunities in the marketplace to accomplish its objectives. In other words, strategy describes how a company will compete.

Companies follow one of two broad strategies. One is provide a *quality* product or service at *low* prices. The other is to compete on their ability to offer a *unique* product or service that is generally offered at a *higher* price.

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

20) Briefly describe how managers make use of management accounting information.

Answer:

ONE: To choose *strategy*, to communicate it, and to determine how best to implement it.

TWO: To *plan* business operations related to designing, producing, and marketing a product or service. This includes preparing budgets and determining the prices and cost of products and services. A company must know the cost of each product and service to decide which products to offer and whether to expand or discontinue product lines.

THREE: To *control* business operations that includes comparing actual results to the budgeted results and taking corrective action when needed.

Diff: 2

Terms: strategy, planning

Objective: 2

AACSB: Reflective thinking

21) Generally, companies follow one of two broad strategies: offering a quality product at a low price, or offering a unique product or service priced higher than the competition. Assume you are opening a small food outlet across the street from your campus. How might that business be operated under each of the two broad strategies? Consider the following specific operational areas:

- a. target customers
- b. products offered
- c. product pricing
- d. location choice
- e. advertising content
- f. advertising media

Answer: The purpose of this question is to explore some of the differences in business operations as a result of a broad strategic choice. Answers will differ from student to student, but you should see some specific themes.

Operational Area	Low Price Strategy	Differential Strategy
Target customers	Target customers might be students on a tight budget	Target customers might be more wealthy students, faculty, or perhaps neighbors who live nearby.
Products offered	Few products, heavy emphasis on tight cost control, probably set up as a high volume operation.	High quality products, probably a reasonable choice, restaurant might have a lot of ambience.
Product pricing	Priced at or lower than the competition in the area.	Higher priced products.
Location choice	Convenient to the target customers.	Not as convenient, perhaps in a higher-end shopping or entertainment area. Customers might seek out the high quality and be willing to travel a bit for it.
Advertising content	Advertising would emphasize the low price of the products offered.	Advertising would emphasize quality or ambience.
Advertising media	Media that would be looked at by the target customers, such as student newspapers.	Media that would be looked at by the target customer, local magazines and newspapers.

Diff: 3

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

22) Generally, companies follow one of two broad strategies: offering a quality product at a low price, or offering a unique product or service priced higher than the competition. Is it possible to follow a strategy that is "in the middle"?

Answer: There is some dispute about the correct answer to this question. Some will argue that it is not good for companies to get "caught in the middle" because the customer might get confused as to whether or not the company is competing on price or is trying to make some other appeal. If the customer is confused about how the company is giving them value, they might perceive they are getting no value and abandon the product to a competitor with a clearer customer value proposition. The other side of the argument is that cost management is a necessary part of any strategy and even if the company chooses to pursue a differential strategy, management of the company should always be seeking ways to manage costs and increase customer value simultaneously regardless of their strategy. The student should be able to articulate one or the other arguments coherently.

Diff: 2

Terms: total quality management (TQM)

Objective: 2

AACSB: Reflective thinking

Objective 1.3

1) Place the four business functions in the order they appear along the value chain:

Customer service

Design

Marketing

Production

A) Customer Service, Design, Production, Marketing

B) Customer Service, Marketing, Production, Design

C) Design, Production, Marketing, Customer Service

D) Design, Customer Service, Production, Marketing

Answer: C

Diff: 2

Terms: value chain

Objective: 3

AACSB: Reflective thinking

2) R&D, production, and customer service are business functions that are all included as part of:

A) the value chain

B) benchmarking

C) marketing

D) the supply chain

Answer: A

Diff: 1

Terms: value chain

Objective: 3

AACSB: Analytical skills

- 3) The value chain is the sequence of business functions in which:
- A) value is deducted from the products or services of an organization
 - B) value is proportionately added to the products or services of an organization
 - C) products and services are evaluated with respect to their value to the supply chain
 - D) usefulness is added to the products or services of an organization

Answer: D

Diff: 2

Terms: value chain

Objective: 3

AACSB: Reflective thinking

- 4) _____ is the generation of, and experimentation with, ideas related to new products, services, or processes.

- A) Research and development
- B) Design of products, services, or processes
- C) Production
- D) Marketing

Answer: A

Diff: 1

Terms: research and development

Objective: 3

AACSB: Analytical skills

- 5) _____ is the detailed planning and engineering of products, services, or processes.

- A) Distribution
- B) Design of products, services, or processes
- C) Production
- D) Marketing

Answer: B

Diff: 1

Terms: design of products, services, or processes

Objective: 3

AACSB: Reflective thinking

- 6) _____ is the acquisition, coordination, and assembly of resources to produce a product or deliver a service.

- A) Research and development
- B) Customer service
- C) Production
- D) Marketing

Answer: C

Diff: 1

Terms: production

Objective: 3

AACSB: Reflective thinking

7) _____ is the manner by which companies promote and sell their products or services to customers or perspective customers.

- A) Distribution
- B) Customer service
- C) Research and development
- D) Marketing

Answer: D

Diff: 1

Terms: marketing

Objective: 3

AACSB: Reflective thinking

8) _____ is the delivery of products or services to customers.

- A) Distribution
- B) Customer service
- C) Production
- D) Design of products, services, or processes

Answer: A

Diff: 1

Terms: distribution

Objective: 3

AACSB: Reflective thinking

9) _____ is the after-sale support provided to customers.

- A) Distribution
- B) Customer service
- C) Production
- D) Marketing

Answer: B

Diff: 1

Terms: customer service

Objective: 3

AACSB: Reflective thinking

10) _____ is a strategy that integrates people and technology in all business functions to enhance relationships with customers, partners, and distributors.

- A) Supply-chain analysis
- B) Customer relationship management
- C) Value-chain analysis
- D) Continuous quality improvement

Answer: B

Diff: 1

Terms: customer relationship management

Objective: 3

AACSB: Use of Information Technology

11) Customer relationship management initiatives use technology to coordinate all:

- A) production activities
- B) research activities
- C) customer-facing activities
- D) inventory management activities

Answer: C

Diff: 1

Terms: customer relationship management

Objective: 3

AACSB: Use of Information Technology

12) _____ describe(s) the flow of goods, services, and information from the purchase of materials to the delivery of products to consumers, regardless of whether those activities occur in the same organization or with other organizations.

- A) Supply chain
- B) Key success factors
- C) Continuous improvement
- D) Customer focus

Answer: A

Diff: 1

Terms: supply chain

Objective: 3

AACSB: Reflective thinking

13) Processing orders and shipping products or services to customers (also called outbound logistics) is also known as

- A) customer focus
- B) distribution
- C) marketing
- D) supply chain

Answer: B

Diff: 2

Terms: value chain

Objective: 3

AACSB: Reflective thinking

14) _____ is a philosophy in which management improves operations throughout the value chain to deliver products and services that exceed customer expectations.

- A) Cost-benefit approach
- B) Customer focus
- C) Customer relationship management
- D) Total quality management

Answer: D

Diff: 2

Terms: quality

Objective: 3

AACSB: Reflective thinking

15) Which item is NOT an area that customers want to see improved levels of performance in?

- A) innovation
- B) quality
- C) cost and efficiency
- D) profit

Answer: D

Diff: 2

Terms: supply chain

Objective: 3

AACSB: Reflective thinking

16) Which of the following statements about a company's supply chain is true?

- A) A company's supply chain is always internal to a firm.
- B) A company's supply chain is always external to a firm.
- C) A company's supply chain is the same thing as a company's value chain.
- D) Management accountants provide information to enhance a company's supply chain.

Answer: D

Diff: 1

Terms: supply chain

Objective: 3

AACSB: Communication

17) _____ describes the flow of goods, services, and information from the initial sources of materials and services to the delivery of products to consumers, regardless of whether those activities occur in the same organization or in other organizations.

- A) The value chain
- B) The supply chain
- C) Product differentiation
- D) Distribution

Answer: B

Diff: 2

Terms: total quality management (TQM)

Objective: 3

AACSB: Reflective thinking

18) Whose perceptions of the company's products or services are the most important to the manager?

- A) board of directors' perception
- B) customers' perception
- C) president's perception
- D) stockholders' perception

Answer: B

Diff: 2

Terms: total quality management (TQM)

Objective: 3

AACSB: Reflective thinking

19) _____ aims to improve operations throughout the value chain and to deliver products and services that exceed customer expectations.

A) Total Quality Management

B) Innovation

C) Customer response time

D) Cost and efficiency

Answer: A

Diff: 2

Terms: total quality management (TQM)

Objective: 3

AACSB: Reflective thinking

20) Customers are demanding improved performance related to:

A) reduced costs

B) both reduced costs and increased quality

C) lower costs, improved quality, and improved customer service

D) All of these answers are correct.

Answer: D

Diff: 2

Terms: total quality management (TQM)

Objective: 3

AACSB: Analytical skills

21) Customer response time involves:

A) the speed it takes a customer to respond to an advertisement and place an order

B) the speed at which an organization responds to customer requests

C) the speed it takes to develop a new product

D) the speed it takes an organization to develop a Total Quality Management (TQM) program

Answer: B

Diff: 2

Terms: total quality management (TQM)

Objective: 3

AACSB: Reflective thinking

22) Which of the following is NOT a way for a company to improve customer response time?

A) Increase capacity of bottleneck operations.

B) Purchase material in larger quantities.

C) Use faster delivery procedures.

D) Produce the product more quickly.

Answer: B

Diff: 2

Terms: total quality management (TQM)

Objective: 3

AACSB: Analytical skills

23) The supply chain refers to the sequence of business functions in which customer usefulness is added to products or services.

Answer: FALSE

Explanation: The value chain refers to the sequence of business functions in which customer usefulness is added to products or services.

Diff: 1

Terms: supply chain

Objective: 3

AACSB: Reflective thinking

24) An effective way to cut costs is to eliminate activities that do NOT improve the product attributes that customers value.

Answer: TRUE

Diff: 1

Terms: cost management

Objective: 3

AACSB: Reflective thinking

25) For optimal planning success it is best if each business function within the value chain is performed one at a time in sequence.

Answer: FALSE

Explanation: Optimally, success is achieved when two or more of the individual business functions work concurrently as a team.

Diff: 1

Terms: value chain

Objective: 3

AACSB: Analytical skills

26) For best results, cost management emphasizes independently coordinating supply chain activities within your company and with other companies that act as suppliers and customers.

Answer: TRUE

Diff: 2

Terms: cost management

Objective: 3

AACSB: Analytical skills

27) Technological innovation has led to longer product-life cycles and lessened the need to bring new products to market more rapidly.

Answer: FALSE

Explanation: Technological innovation has led to shorter product-life cycles and increased the need to bring new products to market more rapidly.

Diff: 1

Terms: design of products, services, or processes

Objective: 3

AACSB: Use of Information Technology

28) Key success factors include cost, quality, timeliness, and innovation.

Answer: TRUE

Diff: 1

Terms: value chain

Objective: 3

AACSB: Reflective thinking

29) Customers are demanding increased levels of performance in all aspects of the value chain and the supply chain.

Answer: TRUE

Diff: 1

Terms: value chain

Objective: 3

AACSB: Analytical skills

30) The supply chain describes the flow of goods, services, and information from the initial sources of materials and services to the delivery of products to consumers.

Answer: FALSE

Explanation: The value chain describes the flow of goods, services, and information from the initial sources of materials and services to the delivery of products to consumers.

Diff: 1

Terms: value chain

Objective: 3

AACSB: Reflective thinking

31) The supply chain always occurs within a single organization.

Answer: FALSE

Explanation: The supply chain can include organizations external to a single organization.

Diff: 1

Terms: supply chain

Objective: 3

AACSB: Analytical skills

32) Distribution refers to promoting and selling products or services to customers or prospective customers.

Answer: FALSE

Explanation: Marketing refers to promoting and selling products or services to customers or prospective customers.

Diff: 1

Terms: distribution

Objective: 3

AACSB: Communication

33) The production component of the value chain refers detailed planning, engineering, and testing of products and processes.

Answer: FALSE

Explanation: The design of products, services, and processes component of the value chain refers detailed planning, engineering, and testing of products and processes.

Diff: 1

Terms: design of products, services, or processes

Objective: 3

AACSB: Reflective thinking

34) Management accountants might provide information on decisions on whether to buy a product from outside or manufacture it in-house.

Answer: TRUE

Diff: 1

Terms: cost-benefit approach

Objective: 3

AACSB: Communication

35) Key success factors are geared to improving customer satisfaction.

Answer: TRUE

Diff: 2

Terms: value chain

Objective: 3

AACSB: Analytical skills

36) Value chain refers to its value to the employee.

Answer: FALSE

Explanation: Value chain refers to its value to the *customer*.

Diff: 1

Terms: value chain

Objective: 3

AACSB: Reflective thinking

37) Companies have to follow strict guidelines when designing a management accounting system.

Answer: FALSE

Explanation: The design of a management accounting system should be guided by the challenges facing managers.

Diff: 1

Terms: treasury

Objective: 3

AACSB: Analytical skills

38) Tracking what is happening in other companies is illegal.

Answer: FALSE

Explanation: Tracking what is happening in other companies alerts managers to changes in their industry and can be accomplished in many legal ways such as visiting competitor's Web sites and reviewing their financial statements.

Diff: 1

Terms: total quality management (TQM)

Objective: 3

AACSB: Analytical skills

39) Increased global competition is placing pressure on companies to reduce costs.

Answer: TRUE

Diff: 1

Terms: total quality management (TQM)

Objective: 3

AACSB: Analytical skills

40) The increasing pace of technological innovation has resulted in shorter product life cycles.

Answer: TRUE

Explanation: The increasing pace of technological information has resulted in shorter product lifecycles.

Diff: 1

Terms: total quality management (TQM)

Objective: 3

AACSB: Use of Information Technology

41) A bottleneck occurs when the work to be performed exceeds the available capacity.

Answer: TRUE

Diff: 1

Terms: cost management

Objective: 3

AACSB: Reflective thinking

42) Classify each cost item into one of the business functions of the value chain, either (1) R&D, (2) design, (3) production, (4) marketing, (5) distribution, or (6) customer service.

Item:

- a. cost of samples mailed to promote sales of a new product
- b. labor cost of workers in the manufacturing plant
- c. bonus paid to a person with a 90% satisfaction rating in handling customers with complaints
- d. transportation costs for shipping products to retail outlets

Answer:

- a. (4) marketing
- b. (3) production
- c. (6) customer service
- d. (5) distribution

Diff: 2

Terms: value chain

Objective: 3

AACSB: Analytical skills

43) Classify each cost item of Ripon Printers into one of the business functions of the value chain, either (1) R&D, (2) design, (3) production, (4) marketing, (5) distribution, or (6) customer service.

Item:

- a. cost of customer order forms
- b. cost of paper used in manufacture of books
- c. cost of paper used in packing cartons to ship books
- d. cost of paper used in display at national trade show
- e. depreciation of trucks used to transport books to college bookstores
- f. cost of the wood used to manufacture paper
- g. salary of the scientists attempting to find another source of printing ink
- h. cost of defining the book size so that a standard-sized box is filled to capacity

Answer:

- a. (4) marketing
- b. (3) production
- c. (5) distribution
- d. (4) marketing
- e. (5) distribution
- f. (3) production
- g. (1) research and development
- h. (2) design

Diff: 2

Terms: value chain

Objective: 3

AACSB: Analytical skills

44) Describe the value chain and how it can help organizations become more effective.

Answer: A value chain is a sequence of business functions whose objective is to provide a product to a customer or provide an intermediate good or service in a larger value chain. These business functions include R&D, design, production, marketing, distribution, and customer service.

An organization can become more effective by focusing on whether each link in the chain adds value from the customer's perspective and furthers the organization's objectives.

Diff: 3

Terms: value chain

Objective: 3

AACSB: Reflective thinking

45) Value chain and classification of costs, car company.

General Motors incurs the following costs:

- a.** Electricity costs for the plant assembling the Chevrolet Camaro
- b.** Transportation costs for shipping the Camaro to dealers
- c.** Payment to Shelby Designs for the design of the Camaro.
- d.** Salary of an engineer working on the next generation of Camaros
- e.** Cost of GM employees' visit to an auto show to demonstrate the Camaro
- f.** Testing the Camaro at the GM track
- g.** Payment to television network for running Camaro advertisements
- h.** Cost of brake pads purchased from outside supplier to be installed on the Camaro

Required:

Classify each of the cost items (**a-h**) into one of the business functions of the value chain.

- 1) Research and development
- 2) Design of products and processes
- 3) Production
- 4) Marketing
- 5) Distribution
- 6) Customer service

Answer:

- a. 3) Production
- b. 5) Distribution
- c. 2) Design of products and processes
- d. 1) Research and development
- e. 4) Marketing
- f. 2) Design of products and processes
- g. 4) Marketing
- h. 3) Production

Diff: 2

Terms: value chain

Objective: 3

AACSB: Reflective thinking

Objective 1.4

- 1) Place the five steps in the decision-making process in the correct order:

- A = Obtain information
- B = Make decisions by choosing among alternatives
- C = Identify the problem and uncertainties
- D = Implement the decision
- E = Make predictions about the future

- A) C D B E A
- B) E D A B C
- C) C A E B D
- D) A E B D C

Answer: C

Diff: 2

Terms: decision model

Objective: 4

AACSB: Reflective thinking

2) Planning consists of all of these areas EXCEPT:

- A) selecting organizational goals
- B) deciding how to attain the desired goals
- C) evaluating performance
- D) predicting results under various alternatives

Answer: C

Diff: 2

Terms: planning

Objective: 4

AACSB: Reflective thinking

3) The most important planning tool is a _____.

- A) performance evaluation report
- B) balanced scorecard
- C) goal
- D) budget

Answer: D

Diff: 2

Terms: budget

Objective: 4

AACSB: Analytical skills

4) A report showing the actual financial results for a period compared to the budgeted financial results for that same period would most likely be called a:

- A) strategic plan
- B) management forecast
- C) performance report
- D) revised plan

Answer: C

Diff: 1

Terms: budget

Objective: 4

AACSB: Reflective thinking

5) The process of preparing a budget:

- A) forces coordination and communication across business functions
- B) increases accounting efficiencies
- C) reduces overcapacity
- D) promotes production automation

Answer: A

Diff: 2

Terms: budget

Objective: 4

AACSB: Analytical skills

- 6) Planning includes all of the following EXCEPT
- A) identifying the problem and uncertainties.
 - B) obtaining information.
 - C) providing feedback to help with future decision making.
 - D) making predictions about the future.

Answer: C

Diff: 1

Terms: planning

Objective: 4

AACSB: Reflective thinking

- 7) A budget:

- A) is a quantitative expression of a proposed management plan
- B) helps translate strategy into actions
- C) aids in the coordination and communication among various business functions
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: budget

Objective: 4

AACSB: Reflective thinking

- 8) A budget can serve as:

- A) a planning tool
- B) a control tool
- C) a basis for preparing financial statements
- D) a planning and control tool

Answer: D

Diff: 1

Terms: budget

Objective: 4

AACSB: Analytical skills

- 9) Employees _____ how their performance is measured.

- A) pay close attention to
- B) pay no attention to
- C) rarely know
- D) None of the above are correct.

Answer: A

Diff: 1

Terms: control

Objective: 4

AACSB: Reflective thinking

10) Linking rewards to performance:

- A) helps to motivate managers
- B) allows companies to charge premium prices
- C) should only be based on financial information
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: control

Objective: 4

AACSB: Analytical skills

11) Control measures should:

- A) be set and not changed until the next budget cycle
- B) be flexible to allow for employees who are slackers
- C) be kept confidential from employees so that competitors don't have an opportunity to gain a competitive advantage
- D) be linked by feedback to planning

Answer: D

Diff: 2

Terms: control

Objective: 4

AACSB: Reflective thinking

12) A well-conceived plan allows managers the ability to:

- A) not make decisions again until the next planning session
- B) keep lower-level managers from implementing change
- C) underestimate costs so that actual operating results will be favorable when comparisons are made
- D) take advantage of unforeseen opportunities

Answer: D

Diff: 2

Terms: planning

Objective: 4

AACSB: Analytical skills

13) Which of the following statements concerning performance reports is NOT correct?

- A) The performance report shows actual performance as compared to the budget.
- B) The performance report is a feedback tool.
- C) The performance report often leads to more investigations and action.
- D) The performance report contains no actual results due to confidentiality.

Answer: D

Diff: 2

Terms: budget

Objective: 4

AACSB: Reflective thinking

14) Management accounting is considered most likely to be successful when it:

A) helps creditors evaluate the company's performance

B) helps investors improve their decisions

C) is timely

D) is relevant and reported annually

Answer: C

Diff: 2

Terms: treasury

Objective: 4

AACSB: Analytical skills

15) The last step in the decision-making process is to make decisions by choosing among alternatives.

Answer: FALSE

Explanation: The last step in the decision-making process is to implement the decision, evaluate performance, and learn.

Diff: 1

Terms: decision model

Objective: 4

AACSB: Reflective thinking

16) One of the steps in planning is making predictions about the future.

Answer: TRUE

Diff: 1

Terms: planning

Objective: 4

AACSB: Reflective thinking

17) It is difficult to control activities without a budget.

Answer: TRUE

Diff: 1

Terms: budget

Objective: 4

AACSB: Analytical skills

18) To take advantage of changing market opportunities, the annual budget should be strictly enforced.

Answer: FALSE

Explanation: To take advantage of changing market opportunities, the annual budget should be updated to reflect those changes.

Diff: 2

Terms: budget

Objective: 4

AACSB: Analytical skills

19) A budget is a quantitative expression of a plan.

Answer: TRUE

Diff: 2

Terms: budget

Objective: 4

AACSB: Reflective thinking

20) The process of preparing a budget forces coordination and communication throughout the company.

Answer: TRUE

Diff: 1

Terms: budget

Objective: 4

AACSB: Communication

21) Linking rewards to performance is a major deterrent to good management performance.

Answer: FALSE

Explanation: Linking rewards to performance helps to motivate good management performance.

Diff: 1

Terms: control

Objective: 4

AACSB: Analytical skills

22) Employees pay little attention to how their performance is measured.

Answer: FALSE

Explanation: Employees are very aware of how their performance is measured.

Diff: 1

Terms: feedback

Objective: 4

AACSB: Analytical skills

23) A budget may be used as a planning tool, but NOT as a control tool.

Answer: FALSE

Explanation: A budget may be used as a planning tool and also as a control tool.

Diff: 1

Terms: budget

Objective: 4

AACSB: Reflective thinking

24) Financial accounting reports financial and non financial information that helps managers implement company strategies.

Answer: FALSE

Explanation: *Management* accounting reports financial and nonfinancial information that helps managers implement company strategies.

Diff: 1

Terms: financial accounting

Objective: 4

AACSB: Reflective thinking

25) Feedback and learning helps in the future decision-making process.

Answer: TRUE

Diff: 1

Terms: control

Objective: 4

AACSB: Communication

26) Control includes deciding what feedback to provide that will help with future decision making.

Answer: TRUE

Diff: 1

Terms: control

Objective: 4

AACSB: Communication

27) When a particular aspect of employee performance is measured, employees pay more attention to it.

Answer: TRUE

Diff: 2

Terms: learning

Objective: 4

AACSB: Analytical skills

28) A performance report compares actual performance to the amount budgeted.

Answer: TRUE

Diff: 1

Terms: budget

Objective: 4

AACSB: Reflective thinking

29) Management accounting is playing an increasingly important role by helping managers develop and implement strategy.

Answer: TRUE

Diff: 1

Terms: management accounting, strategy

Objective: 4

AACSB: Reflective thinking

30) In order, list the five steps in the decision-making process.

Answer:

1. Identify the problem and uncertainties
2. Obtain information
3. Make predictions about the future
4. Make decisions by choosing among alternatives
5. Implement the decision, evaluate performance, and learn

Diff: 2

Terms: decision model

Objective: 4

AACSB: Analytical skills

31) For each type of report listed below, identify one planning decision and one controlling decision for which the information would be helpful. Assume you are a Walgreen Company store.

Item:

- a. annual financial statements for the past three years
- b. report detailing sales by department by each hour of the day for the past week
- c. special study regarding increased road traffic due to the construction of a new shopping mall at a near-by intersection

Answer: Please note that answers will vary, but may include the following:

- a. Planning: Decision by shareholder about whether to purchase more stock in the company.
Control: Decision by bank to determine if financial ratios maintained in the line-of-credit (LOC) agreement warrant increasing the LOC amount.
- b. Planning: Decisions regarding future staffing needs.
Control: Decision regarding whether the recent sales promotion led to an increase in revenue.
- c. Planning: Decision of the store manager about whether to change the types of retail items carried.
Control: Decision of the store manager regarding performance of the analyst that prepared the special study.

Diff: 3

Terms: planning, control

Objective: 4

AACSB: Analytical skills

32) Briefly explain the planning and control activities in management accounting. How are these two activities linked to each other?

Answer: Planning business operations relates to designing, producing, and marketing a product or service. This includes preparing budgets and determining the prices and cost of products and services. A company must know the cost of each product and service to decide which products to offer and whether to expand or discontinue product lines.

Controlling business operations includes comparing actual results to the budgeted results and taking corrective action when needed.

Feedback links planning and control. The control function provides information to assist in better future planning.

Diff: 2

Terms: planning, control

Objective: 4

AACSB: Reflective thinking

33) Explain how a budget can help management implement strategy.

Answer: A budget is a planning tool, a quantitative expression of a plan of action. First, actions are planned and then they are communicated to the entire organization.

The budget also helps with coordination.

Diff: 3

Terms: budget

Objective: 4

AACSB: Reflective thinking

34) Explain how a customer focus can result in increased profits for a company.

Answer: If customers who provide a company with the most profits are attracted, satisfied, and retained, profits will increase as a result.

Diff: 3

Terms: total quality management (TQM)

Objective: 4

AACSB: Reflective thinking

35) Complete a performance report for the month of May, 2011, for the Daily Bulletin, a regional newspaper showing four columns: 1) Actual Result; 2) Budgeted Amount; 3) Difference: Actual Result minus Budgeted Amount; 4) Difference as a Percentage of Budgeted Amount, given the following data:

Actual pages sold	550
Budgeted advertising pages	500
Actual Advertising revenue	\$3,850,000
Budgeted Advertising revenue	\$4,000,000

Does the report indicate any cause for managerial investigation?

Answer: The performance report should look something like the following:

	Actual Result (1)	Budgeted Amount (2)	Difference (Actual Result - Budgeted Amount) (3) = (1) - (2)	Difference as a Percentage of Budgeted Amount (4) = (3) / (2)
Advertising pages sold	550 pages	500 pages	50 pages Favorable	10.00% Favorable
Average rate per page (Advertising Revenues) / (Advertising pages sold)	\$7,000	\$8,000	\$1,000 Unfavorable	12.50% Unfavorable
Advertising revenues	\$3,850,000	\$4,000,000	\$150,000 Unfavorable	3.75% Unfavorable

The overall 3.75% unfavorable difference in advertising revenue is caused by offsetting differences in advertising pages sold (favorable) and the average rate per page (unfavorable). The performance report highlights the favorable increase in the advertising pages sold. While the percentage drop in advertising revenue per page is also dramatic, management might want to investigate the reasons behind such a drop. Some possibilities include: aggressive price reductions to obtain revenue, or some aggressive competition, or an unrealistic budget.

Diff: 3

Terms: budget

Objective: 4

AACSB: Analytical skills

Objective 1.5

1) Which item is NOT a guideline used by management accountants to assist in strategic and operational decision making?

- A) cost-benefit approach
- B) behavioral and technical considerations
- C) different costs for different purposes
- D) balanced scorecard

Answer: D

Diff: 2

Terms: treasury

Objective: 5

AACSB: Reflective thinking

2) The scenario that resources should be spent if the expected benefits to the company exceed the expected costs describes:

- A) cost-benefit approach
- B) behavioral and technical considerations
- C) balanced scorecard
- D) different costs for different purposes

Answer: A

Diff: 2

Terms: cost-benefit approach

Objective: 5

AACSB: Reflective thinking

3) The act of simply measuring and reporting information:

- A) focuses the attention of employees on those processes
- B) diverts employee's attention to other activities
- C) disproves the saying "What gets measured gets managed."
- D) has no effect on employee behavior

Answer: A

Diff: 2

Terms: control, learning

Objective: 5

AACSB: Analytical skills

4) Which statement is true?

- A) Management is primarily a technical activity.
- B) People do not react to measurements.
- C) Employees spend more attention on those variables that are getting measured.
- D) Resources should be spent if the expected benefits to the company are less than the expected costs.

Answer: C

Diff: 2

Terms: control, learning

Objective: 5

AACSB: Analytical skills

5) The primary criterion when faced with a resource allocation decision is:

- A) cost minimization
- B) reduction in the amount of time required to perform a particular job
- C) achievement of organizational goals
- D) how well the alternative options help achieve organizational goals in relation to the costs incurred for these systems

Answer: D

Diff: 3

Terms: cost-benefit approach

Objective: 5

AACSB: Analytical skills

6) Which of the following statements about the cost-benefit approach is true?

- A) Resources should be spent if they are expected to better attain company goals in relation to the expected costs of these resources.
- B) In a cost-benefit analysis, both costs and benefits are easy to obtain.
- C) Resources should be spent if the costs of a decision outweigh the benefits of the decision.
- D) A cost-benefit approach would not be appropriate for a decision to install a budget system or not.

Answer: A

Diff: 2

Terms: cost-benefit approach

Objective: 5

AACSB: Reflective thinking

7) It is generally easy to quantify expected benefits and costs when applying the cost-benefit approach.

Answer: FALSE

Explanation: It is challenging and generally costly to quantify expected benefits and costs when applying the cost-benefit approach.

Diff: 2

Terms: cost-benefit approach

Objective: 5

AACSB: Analytical skills

8) The technical considerations of budgeting encourage managers and other employees to strive for achieving the goals of the organization.

Answer: FALSE

Explanation: The behavioral considerations of budgeting encourage managers and other employees to strive for achieving the goals of the organization.

Diff: 2

Terms: budget

Objective: 5

AACSB: Reflective thinking

9) A cost concept used for external reporting purposes may not be appropriate for internal, routine reporting to managers.

Answer: TRUE

Diff: 2

Terms: cost accounting, financial accounting

Objective: 5

AACSB: Analytical skills

10) Accounting method for internal reporting purposes are specified by Generally Accepted Accounting Principles (GAAP).

Answer: FALSE

Explanation: Accounting methods for internal reporting are not specified by Generally Accepted Accounting principles (GAAP)

Diff: 2

Terms: treasury

Objective: 5

AACSB: Reflective thinking

11) Discuss the cost-benefit approach guideline management accountants use to provide value in strategic decision making.

Answer: Management accountants continually face resource allocation decisions. The cost-benefit approach should be used in making these decisions. Resources should be spent if the expected benefits to the company exceed the expected costs. The expected benefits and costs may not be easy to quantify, but it is a useful approach for making resource allocation decisions.

Diff: 3

Terms: cost-benefit approach

Objective: 5

AACSB: Reflective thinking

12) Discuss the potential behavior implications of performance evaluation.

Answer: As measurements are made on operations and, especially, on individuals and groups, the behavior of the individuals and groups are affected. People react to the measurements being made. They will focus on those variables or the behavior being measured and spend less attention on variables and behavior that are not measured. In addition, if managers attempt to introduce or redesign cost and performance measurement systems, people familiar with the previous system will resist. Management accountants must understand and anticipate the reactions of individuals to information and measurements. The design and introduction of new measurements and systems must be accompanied with an analysis of the likely reactions to the innovations.

Diff: 3

Terms: control, learning

Objective: 5

AACSB: Reflective thinking

Objective 1.6

1) The person(s) directly responsible for attaining of organizational objectives is/are:

- A) the treasurer
- B) line management
- C) the controller
- D) the chief financial officer

Answer: B

Diff: 1

Terms: line management

Objective: 6

AACSB: Reflective thinking

2) The person(s) responsible for providing advice and assistance to line managers is/are:

- A) the controller
- B) the chief financial officer
- C) staff management
- D) the treasurer

Answer: C

Diff: 1

Terms: staff management

Objective: 6

AACSB: Reflective thinking

3) _____ includes providing financial information for reports to managers and shareholders, and overseeing the overall operations of the accounting system.

- A) Internal audit
- B) External audit
- C) Controllership
- D) Treasury

Answer: C

Diff: 2

Terms: conversion costs

Objective: 6

AACSB: Communication

4) _____ includes banking and short- and long-term financing, investments, and cash management.

- A) Risk management
- B) Internal audit
- C) Controllership
- D) Treasury

Answer: D

Diff: 2

Terms: treasury

Objective: 6

AACSB: Analytical skills

5) Line management includes:

- A) manufacturing managers
- B) human-resource managers
- C) information-technology managers
- D) management-accounting managers

Answer: A

Diff: 2

Terms: line management

Objective: 6

AACSB: Analytical skills

6) Staff management includes:

- A) manufacturing managers
- B) human-resource managers
- C) purchasing managers
- D) distribution managers

Answer: B

Diff: 2

Terms: staff management

Objective: 6

AACSB: Analytical skills

7) Responsibilities of a CFO include all of the following EXCEPT:

- A) providing financial reports to shareholders
- B) managing short-term and long-term financing
- C) investing in new equipment
- D) preparing federal, state, and international tax returns

Answer: C

Diff: 3

Terms: chief financial officer (CFO)

Objective: 6

AACSB: Reflective thinking

8) The _____ is primarily responsible for management accounting and financial accounting.

- A) COO (Chief Operating Officer)
- B) CIO (Chief Information Officer)
- C) treasurer
- D) controller

Answer: D

Diff: 1

Terms: internal audit

Objective: 6

AACSB: Analytical skills

9) All of the following report to the CFO EXCEPT the:

- A) controller
- B) tax department manager
- C) production manager
- D) treasurer

Answer: C

Diff: 1

Terms: chief financial officer (CFO)

Objective: 6

AACSB: Reflective thinking

10) Examples of the controller's functions include all EXCEPT:

- A) operations administration
- B) budgeting
- C) investor relations
- D) general ledger

Answer: C

Diff: 1

Terms: internal audit

Objective: 6

AACSB: Reflective thinking

11) Long term financing is an integral part of the _____ function in an organization.

- A) treasurer's
- B) controller's
- C) internal audit
- D) president's

Answer: A

Diff: 1

Terms: management accounting, controller

Objective: 6

AACSB: Reflective thinking

12) Line management is directly responsible for attaining the goals of the organization.

Answer: TRUE

Diff: 1

Terms: line management

Objective: 6

AACSB: Reflective thinking

13) Staff management should NOT provide advice and assistance to line management.

Answer: FALSE

Explanation: Management accountants, and human-resources managers are examples of staff management.

Diff: 1

Terms: controllership

Objective: 6

AACSB: Communication

14) Treasury includes banking and short- and long-term financing, investments, and cash management.

Answer: TRUE

Diff: 2

Terms: controllership

Objective: 6

AACSB: Analytical skills

15) The controller is usually responsible for banking, short- and long-term financing, investments, and cash management.

Answer: TRUE

Diff: 1

Terms: internal audit

Objective: 6

AACSB: Reflective thinking

16) The controller (also called the chief accounting officer) is the financial executive primarily responsible for both management accounting and financial accounting.

Answer: TRUE

Diff: 1

Terms: internal audit

Objective: 6

AACSB: Reflective thinking

17) An external audit includes reviewing and analyzing financial and other records to attest to the integrity of the organization's financial reports and to adherence to its policies and procedures.

Answer: FALSE

Explanation: Internal audit includes reviewing and analyzing financial and other records to attest to the integrity of the organization's financial reports and to adherence to its policies and procedures.

Diff: 2

Terms: internal audit

Objective: 6

AACSB: Communication

18) The controller is generally a staff position.

Answer: TRUE

Diff: 1

Terms: internal audit

Objective: 6

AACSB: Analytical skills

19) Management accountants must have behavioral and interpersonal skills.

Answer: TRUE

Diff: 1

Terms: internal audit

Objective: 6

AACSB: Analytical skills

20) What areas of responsibility does a chief financial officer have in a typical organization?

Answer: The responsibilities vary among organizations, but generally include the following areas: controllership, treasury, risk management, taxation, investor relations, and internal audit.

Diff: 3

Terms: chief financial officer (CFO)

Objective: 6

AACSB: Reflective thinking

21) How does a controller help "control" a company?

Answer: By reporting and interpreting relevant data, the controller exerts a force or influence that impels management toward making better-informed decisions.

The controller of Caterpillar described the job as "a business advisor to ...help the team develop strategy and focus the team all the way through recommendations and implementation."

Diff: 3

Terms: internal audit

Objective: 6

AACSB: Reflective thinking

Objective 1.7

1) Which of the following issues is NOT addressed by the Sarbanes-Oxley legislation?

- A) improving internal control
- B) corporate governance
- C) disclosure practices of public corporations
- D) disclosure practices of private companies

Answer: D

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

2) The Standards of Ethical Conduct for management accountants include concepts related to:

- A) competence, performance, integrity, and reporting
- B) competence, confidentiality, integrity, and credibility
- C) experience, integrity, reporting, and objectivity
- D) None of these answers are correct.

Answer: B

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

3) Which item is NOT an indication of competence under the Standards of Ethical Conduct?

- A) Maintain an appropriate level of professional expertise by continually developing knowledge and skills.
- B) Keep information confidential except when disclosure is authorized or legally required.
- C) Perform professional duties in accordance with relevant laws, regulations, and technical standards.
- D) Provide decision support information and recommendations that are accurate, clear, concise, and timely.

Answer: B

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

4) Which item is NOT an indication of confidentiality under the Standards of Ethical Conduct?

- A) Keep information confidential except when disclosure is authorized or legally required.
- B) Inform all relevant parties regarding appropriate use of confidential information.
- C) Refrain from using confidential information for unethical or illegal advantage.
- D) All of the above indicate confidentiality.

Answer: D

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

- 5) Which item is an indication of integrity under the Standards of Ethical Conduct?
- A) Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
 - B) Communicate information fairly and objectively.
 - C) Keep information confidential except when disclosure is authorized or legally required.
 - D) Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.

Answer: A

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

- 6) Which item is an indication of credibility under the Standards of Ethical Conduct?
- A) Maintain an appropriate level of professional expertise by continually developing knowledge and skills.
 - B) Refrain from using confidential information for unethical or illegal advantage.
 - C) Abstain from engaging in or supporting any activity that might discredit the profession.
 - D) Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.

Answer: D

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

- 7) Ethical challenges for management accountants include:
- A) whether to accept gifts from suppliers, knowing it is an effort to indirectly influence decisions
 - B) whether to report unfavorable department information that may result in unfavorable consequences for a friend
 - C) whether to file a tax return this year
 - D) Both A and B are correct.

Answer: D

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

- 8) Which of the following actions should a management accountant take first in confronting a potential ethical conflict concerning your direct supervisor?
- A) Inform the Board of Directors of the existence of a potential conflict.
 - B) Confront the supervisor directly.
 - C) Discuss the situation with your supervisor's direct supervisor.
 - D) Review your organization's procedures concerning resolution of such a conflict.

Answer: D

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

9) If there is an ethical conflict concerning your direct supervisor, you may contact all of the following groups EXCEPT:

- A) local media
- B) audit committee
- C) executive committee
- D) board of directors

Answer: A

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

10) If there is an ethical conflict concerning your direct supervisor, when is it appropriate to contact authorities or individuals NOT employed by the organization?

- A) when there is a personal conflict
- B) when your supervisor is about to receive a bonus
- C) when there is a clear violation of the law
- D) when you are about to be terminated

Answer: C

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

11) Credibility includes maintaining an appropriate level of professional expertise by continually developing knowledge and skills.

Answer: FALSE

Explanation: Competence includes maintaining an appropriate level of professional expertise by continually developing knowledge and skills.

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

12) The Sarbanes-Oxley legislation does NOT provide a process for employees to report violations of illegal and unethical acts.

Answer: FALSE

Explanation: This legislation does provide employees with the right to report violations.

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

13) Management accountants have important ethical responsibilities that are related to competence, confidentiality, integrity, and credibility.

Answer: TRUE

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

14) A managerial accountant should NOT disclose confidential information to an outside party (such as a newspaper) unless legally obligated to do so.

Answer: TRUE

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

15) If a managerial accountant were NOT keeping up with current developments in managerial accounting, that behavior might violate a competence standard of professional ethical behavior.

Answer: TRUE

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

16) If a managerial accountant suspected his or her immediate superior of wrongdoing, the managerial accountant should request an immediate meeting with the Board of Directors.

Answer: FALSE

Explanation: If a managerial accountant suspected his or her immediate superior of wrongdoing, the managerial accountant should first present the situation to the next higher managerial level.

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

17) The Institute of Management Accountants provides a hotline to discuss ethical issues.

Answer: TRUE

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

18) When faced with a potential ethical conflict, the managerial accountant should first consult any internal procedures of that organization.

Answer: TRUE

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

19) When confronted with a potential ethical conflict, a managerial accountant should not contact his or her personal attorney concerning rights and obligations.

Answer: FALSE

Explanation: When confronted with a potential ethical conflict, a managerial accountant should contact his or her personal attorney concerning rights and obligations.

Diff: 2

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

20) Integrity includes mitigating actual conflicts of interest, regularly communicating with business associates to avoid apparent conflicts of interest, and advising all parties of any potential conflicts.

Answer: TRUE

Diff: 1

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

21) List the four standards of ethical conduct for management accountants. For each standard, give an example that demonstrates compliance with that standard.

Answer: Please note that answers may vary, but may include the following:

1. Competence: Maintain an appropriate level of professional expertise by continually developing knowledge and skills
2. Confidentiality: Refrain from using confidential information for unethical or illegal advantage
3. Integrity: Abstain from engaging in or supporting any activity that might discredit the profession
4. Credibility: Communicate information fairly and objectively

Diff: 3

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

22) You have been employed as an entry-level management accountant for a little under a year. You suspect that your immediate supervisor is involved in a significant fraud involving diverting of company assets to personal use. Briefly describe the steps you might take to resolve this dilemma.

Answer: The management accountant should first consult any internal company procedures concerning the resolution of ethical issues, and make sure these procedures are followed as closely as possible. At the same time, the management accountant should make sure that the facts are accurate, and are not based on rumors or inaccurate information. If these policies do not resolve the situation, present the facts to the next higher managerial level. Clarify the relevant ethical issues with an objective advisor (e.g., Institute of Management Accountants hotline). Consult your own attorney to be aware of your own rights and responsibilities. If all internal review procedures have still not resolved the ethical situation, the managerial accountant might have to resign and write an informative letter to an appropriate representative of the organization, and perhaps notify other parties.

Diff: 3

Terms: professional ethics

Objective: 7

AACSB: Ethical reasoning

Cost Accounting, 14e (Horngren/Datar/Rajan)
Chapter 2 An Introduction to Cost Terms and Purposes

Objective 2.1

1) Cost objects include:

- A) products
- B) customers
- C) departments
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: cost object

Objective: 1

AACSB: Reflective thinking

2) Actual costs are:

- A) the costs incurred
- B) budgeted costs
- C) estimated costs
- D) forecasted costs

Answer: A

Diff: 1

Terms: actual costing

Objective: 1

AACSB: Reflective thinking

3) The general term used to identify both the tracing and the allocation of accumulated costs to a cost object is:

- A) cost accumulation
- B) cost assignment
- C) cost tracing
- D) conversion costing

Answer: B

Diff: 1

Terms: cost assignment

Objective: 1

AACSB: Reflective thinking

4) In order to make decisions, managers need to know:

- A) actual costs
- B) budgeted costs
- C) both costs
- D) neither cost

Answer: C

Diff: 1

Terms: budgeted costs

Objective: 1

AACSB: Ethical reasoning

5) The collection of accounting data in some organized way is:

- A) cost accumulation
- B) cost assignment
- C) cost tracing
- D) conversion costing

Answer: A

Diff: 1

Terms: cost accumulation

Objective: 1

AACSB: Reflective thinking

6) Budgeted costs are:

- A) the costs incurred this year
- B) the costs incurred last year
- C) planned or forecasted costs
- D) competitor's costs

Answer: C

Diff: 2

Terms: budgeted costs

Objective: 1

AACSB: Reflective thinking

7) Cost assignment :

- A) is always arbitrary
- B) is includes tracing and allocating
- C) is the same as cost accumulation
- D) is finding the difference between budgeted and actual costs

Answer: B

Diff: 2

Terms: cost assignment

Objective: 1

AACSB: Reflective thinking

8) A cost system determines the cost of a cost object by:

- A) accumulating and then assigning costs
- B) accumulating costs
- C) assigning and then accumulating costs
- D) assigning costs

Answer: A

Diff: 2

Terms: cost accumulation

Objective: 1

AACSB: Reflective thinking

9) Products, services, departments, and customers may be cost objects.

Answer: TRUE

Diff: 1

Terms: cost object

Objective: 1

AACSB: Reflective thinking

10) Costs are accounted for in two basic stages: assignment followed by accumulation.

Answer: FALSE

Explanation: Costs are accounted for in two basic stages: accumulation followed by assignment.

Diff: 1

Terms: cost accumulation

Objective: 1

AACSB: Reflective thinking

11) Actual costs and historical costs are two different terms referring to the same thing.

Answer: TRUE

Diff: 1

Terms: budgeted costs

Objective: 1

AACSB: Reflective thinking

12) Accountants define a cost as a resource to be sacrificed to achieve a specific objective.

Answer: TRUE

Diff: 1

Terms: cost

Objective: 1

AACSB: Reflective thinking

13) A cost object is always either a product or a service.

Answer: FALSE

Explanation: A cost object could be anything management wishes to determine the cost of, for example, a department.

Diff: 2

Terms: cost object

Objective: 1

AACSB: Reflective thinking

14) A customer could be considered a cost object.

Answer: TRUE

Diff: 2

Terms: cost object

Objective: 1

AACSB: Analytical skills

15) Lucas Manufacturing has three cost objects that it uses to accumulate costs for its manufacturing plants. They are:

- Cost object #1: The physical buildings and equipment
- Cost object #2: The use of buildings and equipment
- Cost object #3: The availability and use of manufacturing labor

The following manufacturing overhead cost categories are found in the accounting records:

- a. Depreciation on buildings and equipment
- b. Lubricants for machines
- c. Property insurance
- d. Supervisors salaries
- e. Fringe benefits
- f. Property taxes
- g. Utilities

Required:

Assign each of the above costs to the most appropriate cost object.

Answer:

Cost object # 1 includes categories a, c, and f.

Cost object # 2 includes categories b and g.

Cost object # 3 includes categories d and e.

Diff: 2

Terms: cost object

Objective: 1

AACSB: Analytical skills

Objective 2.2

1) Which of the following does NOT affect the direct/indirect classification of a cost?

- A) the level of budgeted profit for the next year
- B) the materiality of the cost in question
- C) available technology to gather information about the cost
- D) the design of the operation

Answer: A

Diff: 2

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 2

AACSB: Analytical skills

2) Which of the following statements about the direct/indirect cost classification is NOT true?

- A) Indirect costs are always traced.
- B) Indirect costs are always allocated.
- C) The design of operations affects the direct/indirect classification.
- D) The direct/indirect classification depends on the choice of cost object.

Answer: A

Diff: 2

Terms: indirect manufacturing costs, cost allocation

Objective: 2

AACSB: Analytical skills

3) Cost tracing is:

- A) the assignment of direct costs to the chosen cost object
- B) a function of cost allocation
- C) the process of tracking both direct and indirect costs associated with a cost object
- D) the process of determining the actual cost of the cost object

Answer: A

Diff: 2

Terms: cost tracing

Objective: 2

AACSB: Reflective thinking

4) Cost allocation is:

- A) the process of tracking both direct and indirect costs associated with a cost object
- B) the process of determining the actual cost of the cost object
- C) the assignment of indirect costs to the chosen cost object
- D) a function of cost tracing

Answer: C

Diff: 2

Terms: cost allocation

Objective: 2

AACSB: Reflective thinking

5) The determination of a cost as either direct or indirect depends upon the:

- A) accounting system
- B) allocation system
- C) cost tracing system
- D) cost object chosen

Answer: D

Diff: 2

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 2

AACSB: Reflective thinking

- 6) Classifying a cost as either direct or indirect depends upon:
- A) the behavior of the cost in response to volume changes
 - B) whether the cost is expensed in the period in which it is incurred
 - C) whether the cost can be easily identified with the cost object
 - D) whether an expenditure is avoidable or not in the future

Answer: C

Diff: 2

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 2

AACSB: Reflective thinking

- 7) A manufacturing plant produces two product lines: golf equipment and soccer equipment. An example of direct costs for the golf equipment line are:

- A) beverages provided daily in the plant break room
- B) monthly lease payments for a specialized piece of equipment needed to manufacture the golf driver
- C) salaries of the clerical staff that work in the company administrative offices
- D) utilities paid for the manufacturing plant

Answer: B

Diff: 2

Terms: direct costs of a cost object

Objective: 2

AACSB: Analytical skills

- 8) A manufacturing plant produces two product lines: golf equipment and soccer equipment. An example of indirect cost for the soccer equipment line is:

- A) material used to make the soccer balls
- B) labor to shape the leather used to make the soccer ball
- C) shift supervisor for the soccer line
- D) plant supervisor

Answer: D

Diff: 2

Terms: indirect costs of a cost object

Objective: 2

AACSB: Analytical skills

- 9) Which one of the following items is a direct cost?

- A) Customer-service costs of a multiproduct firm; Product A is the cost object.
- B) Printing costs incurred for payroll check processing; payroll check processing is the cost object.
- C) The salary of a maintenance supervisor in a multiproduct manufacturing plant; Product B is the cost object.
- D) Utility costs of the administrative offices; the accounting department is the cost object.

Answer: B

Diff: 2

Terms: direct costs of a cost object

Objective: 2

AACSB: Reflective thinking

10) Indirect manufacturing costs:

- A) can be traced to the product that created the costs
- B) can be easily identified with the cost object
- C) generally include the cost of material and the cost of labor
- D) may include both variable and fixed costs

Answer: D

Diff: 2

Terms: indirect manufacturing costs

Objective: 2

AACSB: Reflective thinking

11) All of the following are true EXCEPT that indirect costs:

- A) may be included in prime costs
- B) are not easily traced to products or services
- C) vary with the selection of the cost object
- D) may be included in manufacturing overhead

Answer: A

Diff: 2

Terms: indirect manufacturing costs

Objective: 2

AACSB: Reflective thinking

12) Which statement is true?

- A) All variable costs are direct costs.
- B) Because of a cost-benefit tradeoff, some direct costs may be treated as indirect costs.
- C) All fixed costs are indirect costs.
- D) All direct costs are variable costs.

Answer: B

Diff: 3

Terms: variable costs, fixed costs, indirect costs of a cost object

Objective: 2

AACSB: Reflective thinking

13) Which statement is true?

- A) A direct cost of one cost object cannot be an indirect cost of another cost object.
- B) All variable costs are direct costs.
- C) A direct cost of one cost object can be an indirect cost of another cost object.
- D) All fixed costs are direct costs.

Answer: C

Diff: 3

Terms: direct costs, indirect costs

Objective: 2

AACSB: Reflective thinking

14) The same cost may be direct for one cost object and indirect for another cost object.

Answer: TRUE

Diff: 3

Terms: cost object

Objective: 2

AACSB: Analytical skills

15) Assigning direct costs poses more problems than assigning indirect costs.

Answer: FALSE

Explanation: Tracing direct costs is quite straightforward, whereas assigning indirect costs to a number of different cost objects can be very challenging.

Diff: 2

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 2

AACSB: Analytical skills

16) Improvements in information-gathering technologies are making it possible to trace more costs as direct.

Answer: TRUE

Diff: 2

Terms: direct costs of a cost object

Objective: 2

AACSB: Use of Information Technology

17) Misallocated indirect costs may lead to NOT promoting profitability.

Answer: TRUE

Diff: 2

Terms: cost allocation

Objective: 2

AACSB: Analytical skills

18) The materiality of the cost is a factor in classifying the cost as a direct or indirect cost.

Answer: TRUE

Diff: 2

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 2

AACSB: Reflective thinking

19) The cost of electricity used in the production of multiple products would be classified as a indirect cost.

Answer: TRUE

Diff: 1

Terms: direct costs of a cost object

Objective: 2

AACSB: Analytical skills

20) Some fixed costs may be classified as direct manufacturing costs.

Answer: TRUE

Diff: 1

Terms: fixed costs, direct costs of a cost object

Objective: 2

AACSB: Analytical skills

21) The distinction between direct and indirect costs is clearly set forth in Generally Accepted Accounting Principles (GAAP).

Answer: FALSE

Explanation: The distinction between direct and indirect costs is not set forth in GAAP. Direct costs of a cost object are related to the particular cost object and can be traced to it in an economically feasible (cost-effective) way. Indirect costs of a cost object are related to the particular cost object but cannot be traced to it in an economically feasible (cost-effective) way.

Diff: 2

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 2

AACSB: Reflective thinking

22) Archambeau Products Company manufactures office furniture. Recently, the company decided to develop a formal cost accounting system and classify all costs into three categories. Categorize each of the following items as being appropriate for (1) cost tracing to the finished furniture, (2) cost allocation of an indirect manufacturing cost to the finished furniture, or (3) as a nonmanufacturing item.

<u>Item</u>	<u>Cost Tracing</u>	<u>Cost Allocation</u>	<u>Nonmanu- facturing</u>
Carpenter wages	_____	_____	_____
Depreciation - office building	_____	_____	_____
Glue for assembly	_____	_____	_____
Lathe department supervisor	_____	_____	_____
Lathe depreciation	_____	_____	_____
Lathe maintenance	_____	_____	_____
Lathe operator wages	_____	_____	_____
Lumber	_____	_____	_____
Samples for trade shows	_____	_____	_____
Metal brackets for drawers	_____	_____	_____
Factory washroom supplies	_____	_____	_____

Answer: <u>Item</u>	<u>Cost Tracing</u>	<u>Cost Allocation</u>	<u>Nonmanu- facturing</u>
Carpenter wages	X		
Depreciation - office building			X
Glue for assembly		X	
Lathe department supervisor		X	
Lathe depreciation		X	
Lathe maintenance		X	
Lathe operator wages	X		
Lumber	X		
Samples for trade shows			X
Metal brackets for drawers	X		
Factory washroom supplies		X	
Diff: 2			
Terms: cost tracing, cost allocation			
Objective: 2			
AACSB: Analytical skills			

23) Why is it possible that a raw material such as glue might be considered as an indirect material for one furniture manufacturer and as a direct material for another furniture manufacture?

Answer: It is possible for a raw material such as glue to be considered as an indirect material by one furniture manufacturer and as a direct material by another furniture manufacturer. The decision is largely a choice by the manufacturer and depends on a number of factors including the materiality of the cost in question, the cost of gathering the information, and the design of the manufacturing process. If the product in question has an insignificant cost, it might not be worth the trouble to trace the cost of the glue to each piece of furniture, and the glue would be considered indirect. If the cost of tracing the cost of the glue is high in relation to the benefits received from tracing it, the glue would likely be considered as indirect material. If the design of the manufacturing process easily permits all the glue to be traced to a single type of furniture, then it would be easy for a company to consider that material to be direct. Overall, the direct/indirect classification is decided on a cost/benefit basis.

Diff: 3

Terms: direct material

Objective: 2

AACSB: Reflective thinking

24) What are the differences between direct costs and indirect costs? Give an example of each.

Answer: *Direct* costs are costs that can be traced easily to the product manufactured or the service rendered. Examples of direct costs include direct materials and direct manufacturing labor used in a product. *Indirect* costs cannot be easily identified with individual products or services rendered, and are usually assigned using allocation formulas. In a plant that manufactures multiple products, examples of indirect costs include the plant supervisor's salary and the cost of machines used to produce more than one type of product.

Diff: 2

Terms: direct costs, indirect costs

Objective: 2

AACSB: Reflective thinking

Objective 2.3

1) A mixed cost is:

- A) a fixed cost
- B) a cost with fixed and variable elements
- C) a variable cost
- D) always an indirect cost

Answer: B

Diff: 2

Terms: mixed cost

Objective: 3

AACSB: Reflective thinking

2) Which of the following is a mixed cost?

- A) monthly rent payment
- B) manager's salary
- C) monthly electric bill
- D) direct materials

Answer: C

Diff: 2

Terms: mixed cost

Objective: 3

AACSB: Analytical skills

3) Cost behavior refers to:

- A) how costs react to a change in the level of activity
- B) whether a cost is incurred in a manufacturing, merchandising, or service company
- C) classifying costs as either inventoriable or period costs
- D) whether a particular expense has been ethically incurred

Answer: A

Diff: 2

Terms: fixed cost, variable cost

Objective: 3

AACSB: Reflective thinking

4) An understanding of the underlying behavior of costs helps in all of the following EXCEPT:

- A) costs can be better estimated as volume expands and contracts
- B) true costs can be better evaluated
- C) process inefficiencies can be better identified and as a result improved
- D) sales volume can be better estimated

Answer: D

Diff: 2

Terms: fixed cost, variable cost

Objective: 3

AACSB: Analytical skills

5) At a plant where a union agreement sets annual salaries and conditions, annual labor costs usually:

- A) are considered a variable cost
- B) are considered a fixed cost
- C) depend on the scheduling of floor workers
- D) depend on the scheduling of production runs

Answer: B

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Reflective thinking

6) Variable costs:

- A) are always indirect costs
- B) increase in total when the actual level of activity increases
- C) include most personnel costs and depreciation on machinery
- D) can always be traced directly to the cost object

Answer: B

Diff: 2

Terms: variable cost

Objective: 3

AACSB: Reflective thinking

7) Fixed costs:

- A) may include either direct or indirect costs
- B) vary with production or sales volumes
- C) include parts and materials used to manufacture a product
- D) can be adjusted in the short run to meet actual demands

Answer: A

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Reflective thinking

8) Fixed costs depend on the:

- A) amount of resources used
- B) amount of resources acquired
- C) volume of production
- D) volume of sales

Answer: B

Diff: 3

Terms: fixed cost

Objective: 3

AACSB: Reflective thinking

9) Which one of the following is a variable cost for an insurance company?

- A) rent
- B) president's salary
- C) sales commissions
- D) property taxes

Answer: C

Diff: 1

Terms: variable cost

Objective: 3

AACSB: Analytical skills

10) Which of the following is a fixed cost for an automobile manufacturing plant?

- A) administrative salaries
- B) electricity used by assembly-line machines
- C) sales commissions
- D) windows for each car produced

Answer: A

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Analytical skills

11) If each motorcycle requires a belt that costs \$20 and 2,000 motorcycles are produced for the month, the total cost for belts is:

- A) considered to be a direct fixed cost
- B) considered to be a direct variable cost
- C) considered to be an indirect fixed cost
- D) considered to be an indirect variable cost

Answer: B

Diff: 3

Terms: direct costs of a cost object, variable cost

Objective: 3

AACSB: Analytical skills

12) The most likely cost driver of distribution costs is the:

- A) number of parts within the product
- B) number of miles driven
- C) number of products manufactured
- D) number of production hours

Answer: B

Diff: 2

Terms: cost driver

Objective: 3

AACSB: Analytical skills

13) The most likely cost driver of direct labor costs is the:

- A) number of machine setups for the product
- B) number of miles driven
- C) number of production hours
- D) number of machine hours

Answer: C

Diff: 2

Terms: cost driver

Objective: 3

AACSB: Analytical skills

14) Which of the following statements is FALSE?

- A) There is a cause-and-effect relationship between the cost driver and the amount of cost.
- B) Fixed costs have cost drivers over the short run.
- C) Over the long run all costs have cost drivers.
- D) Volume of production is a cost driver of direct manufacturing costs.

Answer: B

Diff: 2

Terms: cost driver

Objective: 3

AACSB: Reflective thinking

15) A band of normal activity or volume in which specific cost-volume relationships are maintained is referred to as the:

- A) average range
- B) cost-allocation range
- C) cost driver range
- D) relevant range

Answer: D

Diff: 1

Terms: relevant range

Objective: 3

AACSB: Reflective thinking

16) Within the relevant range, if there is a change in the level of the cost driver, then:

- A) total fixed costs and total variable costs will change
- B) total fixed costs and total variable costs will remain the same
- C) total fixed costs will remain the same and total variable costs will change
- D) total fixed costs will change and total variable costs will remain the same

Answer: C

Diff: 2

Terms: fixed cost, variable cost

Objective: 3

AACSB: Reflective thinking

17) Within the relevant range, if there is a change in the level of the cost driver, then:

- A) fixed and variable costs per unit will change
- B) fixed and variable costs per unit will remain the same
- C) fixed costs per unit will remain the same and variable costs per unit will change
- D) fixed costs per unit will change and variable costs per unit will remain the same

Answer: D

Diff: 2

Terms: relevant range

Objective: 3

AACSB: Reflective thinking

18) Which of the following would be LEAST likely to be a cost driver for a company's human resource costs?

- A) the number of employees in the human resource department
- B) the number of job applications processed
- C) the number of units sold
- D) the square footage of the office space used by the human resource department

Answer: C

Diff: 2

Terms: cost driver

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

The Singer Company manufactures several different products. Unit costs associated with Product ICT101 are as follows:

Direct materials	\$ 60
Direct manufacturing labor	10
Variable manufacturing overhead	18
Fixed manufacturing overhead	32
Sales commissions (2% of sales)	4
Administrative salaries	<u>16</u>
Total	<u>\$140</u>

19) What are the variable costs per unit associated with Product ICT101?

- A) \$18
- B) \$22
- C) \$88
- D) \$92

Answer: D

Explanation: D) $\$60 + \$10 + \$18 + \$4 = \$92$

Diff: 2

Terms: variable cost

Objective: 3

AACSB: Analytical skills

20) What are the fixed costs per unit associated with Product ICT101?

- A) \$102
- B) \$48
- C) \$52
- D) \$32

Answer: B

Explanation: B) $\$32 + 16 = \48

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

The East Company manufactures several different products. Unit costs associated with Product ORD203 are as follows:

Direct materials	\$50
Direct manufacturing labor	8
Variable manufacturing overhead	10
Fixed manufacturing overhead	23
Sales commissions (2% of sales)	5
Administrative salaries	<u>9</u>
Total	<u>\$105</u>

21) What are the variable costs per unit associated with Product ORD203?

- A) \$60
- B) \$82
- C) \$73
- D) \$105

Answer: C

Explanation: C) $\$50 + \$8 + \$10 + \$5 = \$73$

Diff: 2

Terms: variable cost

Objective: 3

AACSB: Analytical skills

22) What are the fixed costs per unit associated with Product ORD203?

- A) \$23
- B) \$32
- C) \$35
- D) \$44

Answer: B

Explanation: B) $\$23 + 9 = \32

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Analytical skills

23) Fixed costs in total will NOT change in the short run, but may change in the long run.

Answer: TRUE

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Reflective thinking

24) Costs that are difficult to change over the short run are always variable over the long run.

Answer: TRUE

Diff: 2

Terms: variable cost

Objective: 3

AACSB: Analytical skills

25) A decision maker CANNOT adjust capacity over the short run.

Answer: TRUE

Diff: 1

Terms: fixed cost

Objective: 3

AACSB: Analytical skills

26) Variable costs per unit vary with the level of production or sales volume.

Answer: FALSE

Explanation: Variable costs per unit are constant with the level of production or sales volume.

Diff: 1

Terms: variable cost

Objective: 3

AACSB: Reflective thinking

27) Currently, most administrative personnel costs would be classified as fixed costs.

Answer: TRUE

Diff: 1

Terms: fixed cost

Objective: 3

AACSB: Reflective thinking

28) Fixed costs depend on the resources used, not the resources acquired.

Answer: FALSE

Explanation: Fixed costs depend on the resources *acquired*, and not whether the resources are used or not.

Diff: 2

Terms: fixed cost

Objective: 3

AACSB: Reflective thinking

29) The variable cost per unit of a product should stay the same throughout the relevant range of production.

Answer: TRUE

Diff: 2

Terms: variable cost, relevant range

Objective: 3

AACSB: Reflective thinking

30) An appropriate cost driver for shipping costs might be the number of units shipped.

Answer: TRUE

Diff: 2

Terms: cost driver

Objective: 3

AACSB: Analytical skills

31) Butler Hospital wants to estimate the cost for each patient stay. It is a general health care facility offering only basic services and not specialized services such as organ transplants.

Required:

- Classify each of the following costs as either direct or indirect with respect to each patient.
- Classify each of the following costs as either fixed or variable with respect to hospital costs per day.

	<u>Direct</u>	<u>Indirect</u>	<u>Fixed</u>	<u>Variable</u>
Electronic monitoring	_____	_____	_____	_____
Meals for patients	_____	_____	_____	_____
Nurses' salaries	_____	_____	_____	_____
Parking maintenance	_____	_____	_____	_____
Security	_____	_____	_____	_____

Answer:	<u>Direct</u>	<u>Indirect</u>	<u>Fixed</u>	<u>Variable</u>
Electronic monitoring	X			X
Meals for patients	X			X
Nurses' salaries		X	X	
Parking maintenance		X	X	
Security		X	X	

Diff: 2

Terms: direct costs, indirect costs, fixed costs, variable costs

Objective: 2, 3

AACSB: Analytical skills

32) The list of representative cost drivers in the right column below are randomized with respect to the list of functions in the left column. That is, they do not match.

	Function		Representative Cost Driver
1.	Purchasing	A.	Number of employees
2.	Billing	B.	Number of shipments
3.	Shipping	C.	Number of customers
4.	Computer Support	D.	Number of invoices
5.	Personnel	E.	Number of desktop computers
6.	Customer Service	F.	Number of purchase orders

Required:

Match each business function with its representative cost driver.

	Function	Insert letter of appropriate driver (A through F)
1.	Purchasing	
2.	Billing	
3.	Shipping	
4.	Computer Support	
5.	Personnel	
6.	Customer Service	

Answer:

	Function	Insert letter of appropriate driver (A through F)
1.	Purchasing	F
2.	Billing	D
3.	Shipping	B
4.	Computer Support	E
5.	Personnel	A
6.	Customer Service	C

Diff: 2

Terms: cost driver

Objective: 3

AACSB: Analytical skills

33) Describe a variable cost. Describe a fixed cost. Explain why the distinction between variable and fixed costs is important in cost accounting.

Answer: *Total variable* costs increase with increased production or sales volumes.

Fixed costs are not influenced by fluctuations in production or sales volumes.

Without the knowledge of cost behaviors, budgets and other forecasting tools will be inaccurate and unreliable. Understanding whether a cost behaves as a variable or a fixed cost is essential to estimating and planning for business success.

Diff: 2

Terms: variable cost, fixed cost

Objective: 3

AACSB: Reflective thinking

Objective 2.4

1) A unit cost is computed by:

- A) multiplying total cost by the number of units
- B) dividing total cost by the number of units
- C) dividing variable cost by the number of units
- D) adding variable cost to fixed cost

Answer: B

Diff: 2

Terms: unit cost

Objective: 4

AACSB: Reflective thinking

2) In making product mix and pricing decisions, managers should focus on:

- A) total costs
- B) unit costs
- C) variable costs
- D) fixed costs

Answer: A

Diff: 2

Terms: total cost

Objective: 4

AACSB: Ethical reasoning

3) When 20,000 units are produced, fixed costs are \$16 per unit. Therefore, when 40,000 units are produced fixed costs will:

- A) increase to \$32 per unit
- B) remain at \$16 per unit
- C) decrease to \$8 per unit
- D) total \$640,000

Answer: C

Diff: 3

Terms: fixed cost

Objective: 4

AACSB: Analytical skills

4) When 10,000 units are produced, variable costs are \$6 per unit. Therefore, when 20,000 units are produced:

- A) variable costs will total \$120,000
- B) variable costs will total \$60,000
- C) variable unit costs will increase to \$12 per unit
- D) variable unit costs will decrease to \$3 per unit

Answer: A

Diff: 3

Terms: variable cost

Objective: 4

AACSB: Analytical skills

5) Amber Manufacturing provided the following information for last month:

Sales	\$20,000
Variable costs	6,000
Fixed costs	<u>9,000</u>
Operating income	<u>\$5,000</u>

If sales double next month, what is the projected operating income?

A) \$10,000

B) \$25,000

C) \$19,000

D) \$12,000

Answer: C

Explanation: C) $(\$20,000 \times 2) - (\$6,000 \times 2) - \$9,000 = \$19,000$

Diff: 3

Terms: fixed cost, variable cost

Objective: 4

AACSB: Analytical skills

6) Kym Manufacturing provided the following information for last month:

Sales	\$12,000
Variable costs	4,000
Fixed costs	<u>1,000</u>
Operating income	<u>\$7,000</u>

If sales double next month, what is the projected operating income?

A) \$14,000

B) \$15,000

C) \$18,000

D) \$19,000

Answer: B

Explanation: B) $(\$12,000 \times 2) - (\$4,000 \times 2) - \$1,000 = \$15,000$

Diff: 3

Terms: fixed cost, variable cost

Objective: 4

AACSB: Analytical skills

7) Wheel and Tire Manufacturing currently produces 1,000 tires per month. The following per unit data apply for sales to regular customers:

Direct materials	\$20
Direct manufacturing labor	3
Variable manufacturing overhead	6
Fixed manufacturing overhead	<u>10</u>
Total manufacturing costs	<u>\$39</u>

The plant has capacity for 3,000 tires and is considering expanding production to 2,000 tires. What is the total cost of producing 2,000 tires?

- A) \$39,000
- B) \$78,000
- C) \$68,000
- D) \$62,000

Answer: C

Explanation: C) $[(\$20 + \$3 + \$6) \times 2,000 \text{ units}] + (\$10 \times 1,000 \text{ units}) = \$68,000$

Diff: 2

Terms: fixed cost, variable cost

Objective: 4

AACSB: Analytical skills

8) XIAN Manufacturing produces a unique valve, and has the capacity to produce 50,000 valves annually. Currently XIAN produces 40,000 valves and is thinking about increasing production to 45,000 valves next year. What is the most likely behavior of total manufacturing costs and unit manufacturing costs given this change?

- A) Total manufacturing costs will increase and unit manufacturing costs will stay the same.
- B) Total manufacturing costs will increase and unit manufacturing costs will decrease.
- C) Total manufacturing costs will stay the same and unit manufacturing costs will stay the same.
- D) Total manufacturing costs will stay the same and unit manufacturing costs will decrease.

Answer: B

Diff: 3

Terms: fixed cost, variable cost

Objective: 4

AACSB: Analytical skills

9) Tire and Spoke Manufacturing currently produces 1,000 bicycles per month. The following per unit data apply for sales to regular customers:

Direct materials	\$50
Direct manufacturing labor	5
Variable manufacturing overhead	14
Fixed manufacturing overhead	<u>10</u>
Total manufacturing costs	<u>\$79</u>

The plant has capacity for 3,000 bicycles and is considering expanding production to 2,000 bicycles. What is the per unit cost of producing 2,000 bicycles?

- A) \$79 per unit
- B) \$158 per unit
- C) \$74 per unit
- D) \$134 per unit

Answer: C

Explanation: C) $[(\$50 + \$5 + \$14) \times 2,000 \text{ units}] + (\$10 \times 1,000 \text{ units}) = \$148,000 / 2,000 \text{ units} = \74

Diff: 3

Terms: unit cost

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Axle and Wheel Manufacturing currently produces 1,000 axles per month. The following per unit data apply for sales to regular customers:

Direct materials	\$30
Direct manufacturing labor	5
Variable manufacturing overhead	10
Fixed manufacturing overhead	<u>40</u>
Total manufacturing costs	<u>\$85</u>

10) The plant has capacity for 3,000 axles and is considering expanding production to 3,000 axles. What is the total cost of producing 3,000 axles?

- A) \$135,000
- B) \$225,000
- C) \$175,000
- D) \$255,000

Answer: C

Explanation: C) $[(\$30 + \$5 + \$10) \times 3,000 \text{ units}] + (\$40 \times 1,000 \text{ units}) = \$175,000$

Diff: 2

Terms: fixed cost, variable cost

Objective: 4

AACSB: Analytical skills

11) What is the per unit cost when producing 3,000 axles?

- A) \$58.33
- B) \$175.00
- C) \$85.00
- D) \$125.00

Answer: A

Explanation: A) $\$175,000 / 3,000 = \58.33

Diff: 2

Terms: unit cost

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Pederson Company reported the following:

Manufacturing costs	\$2,000,000
Units manufactured	50,000
Units sold	47,000 units sold for \$75 per unit
Beginning inventory	0 units

12) What is the average manufacturing cost per unit?

- A) \$40.00
- B) \$42.55
- C) \$0.025
- D) \$75.00

Answer: A

Explanation: A) $\$2,000,000 / 50,000 = \40.00

Diff: 1

Terms: average cost, unit cost

Objective: 4

AACSB: Analytical skills

13) What is the amount of ending finished goods inventory?

- A) \$1,880,000
- B) \$120,000
- C) \$225,000
- D) \$105,000

Answer: B

Explanation: B) $(50,000 - 47,000) \times (\$2,000,000 / \$50,000) = \$120,000$

Diff: 2

Terms: finished-goods inventory

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

The following information pertains to Alleigh's Mannequins:

Manufacturing costs	\$1,500,000
Units manufactured	30,000
Units sold	29,500 units sold for \$85 per unit
Beginning inventory	0 units

14) What is the average manufacturing cost per unit?

A) \$50.00

B) \$50.85

C) \$17.65

D) \$85.00

Answer: A

Explanation: A) $\$1,500,000 / 30,000 = \50.00

Diff: 1

Terms: unit cost

Objective: 4

AACSB: Analytical skills

15) What is the amount of ending finished goods inventory?

A) \$42,500

B) \$25,424

C) \$25,000

D) \$1,475,000

Answer: C

Explanation: C) $(30,000 - 29,500) \times (\$1,500,000 / 30,000) = \$25,000$

Diff: 2

Terms: finished-goods inventory

Objective: 4

AACSB: Analytical skills

16) When making decisions using fixed costs, the focus should be on total costs and not unit costs.

Answer: TRUE

Diff: 2

Terms: fixed cost

Objective: 4

AACSB: Reflective thinking

17) When 100,000 units are produced the fixed cost is \$20 per unit. Therefore, when 500,000 units are produced fixed costs will remain at \$20 per unit.

Answer: FALSE

Explanation: When 500,000 units are produced fixed costs will decrease to \$4 per unit.

Diff: 3

Terms: fixed cost, unit cost

Objective: 4

AACSB: Analytical skills

18) A unit cost is computed by dividing total cost by the number of units.

Answer: TRUE

Diff: 1

Terms: unit cost

Objective: 4

AACSB: Reflective thinking

19) Unit costs and average costs are really the same thing.

Answer: TRUE

Diff: 2

Terms: average cost, unit cost

Objective: 4

AACSB: Reflective thinking

20) Mirabella, Inc., reports the following information for September sales:

Sales	\$60,000
Variable costs	12,000
Fixed costs	<u>16,000</u>
Operating income	<u>\$ 32,000</u>

Required:

If sales double in October, what is the projected operating income?

Answer: $(\$60,000 \times 2) - (\$12,000 \times 2) - \$16,000 = \$80,000$

Diff: 2

Terms: fixed cost, variable cost

Objective: 4

AACSB: Analytical skills

21) Axle and Wheel Manufacturing currently produces 1,000 axles per month. The following per unit data apply for sales to regular customers:

Direct materials	\$200
Direct manufacturing labor	30
Variable manufacturing overhead	60
Fixed manufacturing overhead	<u>40</u>
Total manufacturing costs	<u>\$330</u>

The plant has capacity for 2,000 axles.

Required:

- What is the total cost of producing 1,000 axles?
- What is the total cost of producing 1,500 axles?
- What is the per unit cost when producing 1,500 axles?

Answer:

- $[(\$200 + \$30 + \$60) \times 1,000 \text{ units}] + (\$40 \times 1,000 \text{ units}) = \$330,000$
- $[(\$200 + \$30 + \$60) \times 1,500 \text{ units}] + \$40,000 = \$475,000$
- $\$475,000 / 1,500 = \316.67 per unit

Diff: 2

Terms: fixed cost, variable cost, unit cost

Objective: 4

AACSB: Analytical skills

22) During 2011, Favata Corporation incurred manufacturing expenses of \$20,000,000 to produce 400,000 finished units. At year-end, it was determined that 370,000 units were sold while 30,000 units remained in ending inventory.

Required:

- What is the cost of producing one unit?
- What is the amount that will be reported on the income statement for cost of goods sold?
- What is the amount that will be reported on the balance sheet for ending inventory?

Answer:

- $\$20,000,000 / 400,000 = \50.00
- $370,000 \text{ units} \times \$50 = \$18,500,000$
- $30,000 \text{ units} \times \$50 = \$1,500,000$

Diff: 2

Terms: unit cost, finished goods

Objective: 4

AACSB: Analytical skills

Objective 2.5

Answer the following questions using the information below:

Pederson Company reported the following:

Manufacturing costs	\$2,000,000
Units manufactured	50,000
Units sold	47,000 units sold for \$75 per unit
Beginning inventory	0 units

1) What is the amount of gross margin?

- A) \$1,750,000
- B) \$3,525,000
- C) \$5,405,000
- D) \$1,645,000

Answer: D

Explanation: D) $47,000 \times (\$75 - (\$2,000,000 / \$50,000)) = \$1,645,000$

Diff: 3

Terms: manufacturing-sector companies

Objective: 5

AACSB: Analytical skills

2) _____ - sector companies purchase materials and components and convert them into finished goods.

- A) Merchandising
- B) Service
- C) Manufacturing
- D) Professional

Answer: C

Diff: 2

Terms: manufacturing-sector company

Objective: 5

AACSB: Analytical skills

3) _____ - sector companies purchase and then sell tangible products without changing their basic form.

- A) Merchandising
- B) Professional
- C) Service
- D) Manufacturing

Answer: A

Diff: 2

Terms: merchandising-sector companies

Objective: 5

AACSB: Analytical skills

4) _____ - sector companies provide intangible products.

- A) Professional
- B) Manufacturing
- C) Merchandising
- D) Service

Answer: D

Diff: 2

Terms: service-sector companies

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

The following information pertains to Alleigh's Mannequins:

Manufacturing costs	\$1,500,000
Units manufactured	30,000
Units sold	29,500 units sold for \$85 per unit
Beginning inventory	0 units

5) What is the amount of gross margin?

- A) \$1,475,000
- B) \$1,500,000
- C) \$2,507,500
- D) \$1,032,500

Answer: D

Explanation: $D) 29,500 \times (\$85 - (\$1,500,000 / \$30,000)) = \$1,032,500$

Diff: 3

Terms: manufacturing-sector company

Objective: 5

AACSB: Analytical skills

6) Which of the following companies is part of the service sector of our economy?

- A) Target
- B) Citibank
- C) Ford
- D) Amazon.com

Answer: B

Diff: 1

Terms: service-sector companies

Objective: 5

AACSB: Analytical skills

7) Which of the following companies is part of the merchandising sector of our economy?

- A) Ford
- B) Hewlett Packard
- C) Macy's
- D) Michael Toback Accounting Firm

Answer: C

Diff: 1

Terms: merchandising-sector companies

Objective: 5

AACSB: Analytical skills

8) Which of the following companies is part of the manufacturing sector of our economy?

- A) Nike
- B) Barnes & Noble
- C) Corvette Law Firm
- D) Sears, Roebuck, and Company

Answer: A

Diff: 1

Terms: manufacturing-sector companies

Objective: 5

AACSB: Analytical skills

9) Yahoo, an Internet search firm, would be classified as:

- A) a manufacturing-sector company
- B) a merchandising-sector company
- C) a service sector company
- D) None of these answers are correct.

Answer: C

Diff: 2

Terms: service-sector companies

Objective: 5

AACSB: Use of Information Technology

10) Service-sector companies report:

- A) only merchandise inventory
- B) only finished goods inventory
- C) direct materials inventory, work-in-process inventory, and finished goods inventory accounts
- D) no inventory accounts

Answer: D

Diff: 1

Terms: service-sector companies

Objective: 5

AACSB: Reflective thinking

11) Manufacturing-sector companies report:

- A) only merchandise inventory
- B) only finished goods inventory
- C) direct materials inventory, work-in-process inventory, and finished goods inventory accounts
- D) no inventory accounts

Answer: C

Diff: 1

Terms: manufacturing-sector companies

Objective: 5

AACSB: Reflective thinking

12) For a manufacturing company, direct material costs may be included in:

- A) direct materials inventory only
- B) merchandise inventory only
- C) both work-in-process inventory and finished goods inventory
- D) direct materials inventory, work-in-process inventory, and finished goods inventory accounts

Answer: D

Diff: 3

Terms: manufacturing-sector companies, direct material costs

Objective: 5

AACSB: Reflective thinking

13) For a manufacturing company, direct labor costs may be included in:

- A) direct materials inventory only
- B) merchandise inventory only
- C) both work-in-process inventory and finished goods inventory
- D) direct materials inventory, work-in-process inventory, and finished goods inventory accounts

Answer: C

Diff: 3

Terms: manufacturing sector companies, direct manufacturing labor costs

Objective: 5

AACSB: Reflective thinking

14) For a manufacturing company, indirect manufacturing costs may be included in:

- A) direct materials inventory only
- B) merchandise inventory only
- C) both work-in-process inventory and finished goods inventory
- D) direct materials inventory, work-in-process inventory, and finished goods inventory accounts

Answer: C

Diff: 3

Terms: indirect manufacturing costs

Objective: 5

AACSB: Reflective thinking

15) For a manufacturing-sector company, the cost of factory depreciation is classified as a:

- A) direct material cost
- B) direct manufacturing labor cost
- C) manufacturing overhead cost
- D) period cost

Answer: C

Diff: 1

Terms: period costs

Objective: 5

AACSB: Reflective thinking

16) For a printing company, the cost of paper is classified as a:

- A) direct material cost
- B) direct manufacturing labor cost
- C) manufacturing overhead cost
- D) period cost

Answer: A

Diff: 1

Terms: direct material costs

Objective: 5

AACSB: Reflective thinking

17) Manufacturing overhead costs in an automobile manufacturing plant most likely include:

- A) labor costs of the painting department
- B) indirect material costs such as lubricants
- C) sales commissions
- D) steering wheel costs

Answer: B

Diff: 1

Terms: manufacturing overhead costs

Objective: 5

AACSB: Reflective thinking

18) Manufacturing overhead costs are also referred to as:

- A) indirect manufacturing costs
- B) prime costs
- C) period costs
- D) direct material

Answer: A

Diff: 1

Terms: manufacturing overhead costs

Objective: 5

AACSB: Reflective thinking

19) Merchandising companies normally report:

- A) only merchandise inventory
- B) only finished goods inventory
- C) direct materials inventory, work-in-process inventory, and finished goods inventory accounts
- D) no inventory accounts

Answer: A

Diff: 1

Terms: merchandising-sector companies

Objective: 5

AACSB: Reflective thinking

20) Direct materials inventory would normally include:

- A) direct materials in stock and awaiting use in the manufacturing process
- B) goods partially worked on but not yet fully completed
- C) goods fully completed but not yet sold
- D) products in their original form intended to be sold without changing their basic form

Answer: A

Diff: 1

Terms: direct materials inventory

Objective: 5

AACSB: Reflective thinking

21) Work-in-process inventory would normally include:

- A) direct materials in stock and awaiting use in the manufacturing process
- B) goods partially worked on but not yet fully completed
- C) goods fully completed but not yet sold
- D) products in their original form intended to be sold without changing their basic form

Answer: B

Diff: 1

Terms: work-in-process inventory

Objective: 5

AACSB: Reflective thinking

22) Finished goods inventory would normally include:

- A) direct materials in stock and awaiting use in the manufacturing process
- B) goods partially worked on but not yet fully completed
- C) goods fully completed but not yet sold
- D) products in their original form intended to be sold without changing their basic form

Answer: C

Diff: 1

Terms: finished-goods inventory

Objective: 5

AACSB: Reflective thinking

23) Finished goods inventory would normally include:

- A) direct materials in stock and awaiting use in the manufacturing process
- B) goods partially worked on but not yet fully completed
- C) goods fully completed but not yet sold
- D) products in their original form intended to be sold without changing their basic form

Answer: C

Diff: 1

Terms: manufacturing-sector companies

Objective: 5

AACSB: Reflective thinking

24) _____ are the acquisition costs of all materials that eventually become part of the cost object and can be traced to the cost object.

- A) Direct manufacturing labor costs
- B) Direct material costs
- C) Indirect manufacturing costs
- D) Manufacturing overhead costs

Answer: B

Diff: 2

Terms: direct material costs

Objective: 5

AACSB: Reflective thinking

25) _____ include the compensation of all manufacturing labor that can be traced to the cost object.

- A) Direct manufacturing labor costs
- B) Indirect manufacturing costs
- C) Direct material costs
- D) Manufacturing overhead costs

Answer: A

Diff: 2

Terms: direct manufacturing labor costs

Objective: 5

AACSB: Reflective thinking

26) _____ are all manufacturing costs that are related to the cost object but CANNOT be traced to that cost object.

- A) Direct material costs
- B) Period costs
- C) Indirect manufacturing costs
- D) Direct manufacturing labor costs

Answer: C

Diff: 2

Terms: indirect manufacturing costs

Objective: 5

AACSB: Reflective thinking

27) The income statement of a manufacturing firm reports:

- A) period costs only
- B) inventoriable costs only
- C) both period and inventoriable costs
- D) period and inventoriable costs but at different times; the reporting varies

Answer: C

Diff: 2

Terms: period costs, inventoriable costs

Objective: 5

AACSB: Reflective thinking

28) The income statement of a service-sector firm reports:

- A) period costs only
- B) inventoriable costs only
- C) both period and inventoriable costs
- D) period and inventoriable costs but at different times; the reporting varies

Answer: A

Diff: 2

Terms: service-sector companies, period costs

Objective: 5

AACSB: Reflective thinking

29) Manufacturing costs include all of the following EXCEPT:

- A) costs incurred inside the factory
- B) both direct and indirect costs
- C) both variable and fixed costs
- D) both direct and period costs

Answer: D

Diff: 2

Terms: manufacturing-sector companies

Objective: 5

AACSB: Reflective thinking

30) Inventoriable costs:

- A) include administrative and marketing costs
- B) are expensed in the accounting period in which the products are sold
- C) are particularly useful in management accounting
- D) are also referred to as nonmanufacturing costs

Answer: B

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

31) Inventoriable costs are expensed on the income statement:

- A) when direct materials for the product are purchased
- B) after the products are manufactured
- C) when the products are sold
- D) not at any particular time, it varies

Answer: C

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

32) Costs that are initially recorded as assets and expensed when sold are called:

- A) period costs
- B) inventoriable costs
- C) variable costs
- D) fixed costs

Answer: B

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

33) For merchandising companies, inventoriable costs include all of the following EXCEPT:

- A) the cost of the goods themselves
- B) incoming freight costs
- C) insurance costs for the goods
- D) outgoing freight costs

Answer: D

Diff: 2

Terms: inventoriable costs, merchandising-sector companies

Objective: 5

AACSB: Reflective thinking

34) For manufacturing firms, inventoriable costs include:

- A) plant supervisor salaries
- B) research and development costs
- C) costs of dealing with customers after the sale
- D) distribution costs

Answer: A

Diff: 2

Terms: inventoriable costs, manufacturing-sector companies

Objective: 5

AACSB: Reflective thinking

35) A plant manufactures several different products. The wages of the plant supervisor can be classified as a(n):

- A) direct cost
- B) inventoriable cost
- C) variable cost
- D) period cost

Answer: B

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

36) The cost of inventory reported on the balance sheet may include all of the following EXCEPT:

- A) customer-service costs
- B) wages of the plant supervisor
- C) depreciation of the factory equipment
- D) the cost of parts used in the manufacturing process

Answer: A

Diff: 2

Terms: inventoriable costs, period costs

Objective: 5

AACSB: Reflective thinking

37) For a automobile manufacturer, period costs include the cost of:

- A) the dashboard
- B) labor used for assembly
- C) advertising
- D) assembly-line equipment

Answer: C

Diff: 1

Terms: period costs, manufacturing-sector company

Objective: 5

AACSB: Use of Information Technology

38) Period costs:

- A) include only fixed costs
- B) seldom influence financial success or failure
- C) include the cost of selling, delivering, and after-sales support for customers
- D) should be treated as an indirect cost rather than as a direct manufacturing cost

Answer: C

Diff: 2

Terms: period costs

Objective: 5

AACSB: Reflective thinking

39) Period costs:

- A) are treated as expenses in the period they are incurred
- B) are directly traceable to products
- C) include direct labor
- D) are also referred to as manufacturing overhead costs

Answer: A

Diff: 2

Terms: period costs

Objective: 5

AACSB: Reflective thinking

40) Which of the following is NOT a period cost?

- A) marketing costs
- B) general and administrative costs
- C) research and development costs
- D) direct materials

Answer: D

Diff: 1

Terms: period costs

Objective: 5

AACSB: Analytical skills

41) Costs expensed on the income statement in the accounting period incurred are called:

- A) direct costs
- B) indirect costs
- C) period costs
- D) inventoriable costs

Answer: C

Diff: 1

Terms: period costs

Objective: 5

AACSB: Reflective thinking

42) Prime costs include:

- A) direct materials and direct manufacturing labor costs
- B) direct manufacturing labor and manufacturing overhead costs
- C) direct materials and manufacturing overhead costs
- D) only direct materials

Answer: A

Diff: 1

Terms: prime costs

Objective: 5

AACSB: Reflective thinking

43) Conversion costs include:

- A) direct materials and direct manufacturing labor costs
- B) direct manufacturing labor and manufacturing overhead costs
- C) direct materials and manufacturing overhead costs
- D) only direct materials

Answer: B

Diff: 1

Terms: conversion costs

Objective: 5

AACSB: Reflective thinking

44) Total manufacturing costs equal:

- A) direct materials + prime costs
- B) direct materials + conversion costs
- C) direct manufacturing labor costs + prime costs
- D) direct manufacturing labor costs + conversion costs

Answer: B

Diff: 2

Terms: prime costs, conversion costs

Objective: 5

AACSB: Reflective thinking

45) In the cost classification system used by manufacturing firms, assembly workers' wages would be included in all of the following EXCEPT:

- A) product cost
- B) prime cost
- C) conversion cost
- D) period cost

Answer: D

Diff: 2

Terms: prime costs, conversion costs

Objective: 5

AACSB: Analytical skills

46) In the cost classification system used by manufacturing firms, total manufacturing costs would include all of the following EXCEPT:

- A) direct materials costs and conversion costs
- B) direct materials costs, direct manufacturing labor costs, and manufacturing overhead costs
- C) indirect materials costs, indirect manufacturing labor costs, and manufacturing overhead costs
- D) prime costs and manufacturing overhead costs

Answer: C

Diff: 2

Terms: prime costs, conversion costs

Objective: 5

AACSB: Reflective thinking

47) Manufacturing overhead costs may include all of the following EXCEPT:

- A) salary of the plant supervisor
- B) labor that can be traced to individual products
- C) material that can be traced to individual products
- D) overtime premiums paid to plant workers

Answer: B

Diff: 3

Terms: manufacturing overhead costs

Objective: 5

AACSB: Reflective thinking

48) Which of the following formulas determine cost of goods sold in a merchandising entity?

- A) Beginning inventory + Purchases + Ending inventory = Cost of goods sold
- B) Beginning inventory + Purchases - Ending inventory = Costs of goods sold
- C) Beginning inventory - Purchases + Ending inventory = Cost of goods sold
- D) Beginning inventory - Ending inventory - Purchases = Cost of goods sold

Answer: B

Diff: 1

Terms: merchandising-sector companies

Objective: 5

AACSB: Reflective thinking

49) Which of the following formulas determine cost of goods sold in a manufacturing entity?

- A) Beginning work-in-process inventory + Cost of goods manufactured - Ending work-in-process inventory = Cost of goods sold
- B) Beginning work-in-process inventory + Cost of goods manufactured + Ending work-in-process inventory = Cost of goods sold
- C) Cost of goods manufactured - Beginning finished goods inventory - Ending finished goods inventory = Cost of goods sold
- D) Cost of goods manufactured + Beginning finished goods inventory - Ending finished goods inventory = Cost of goods sold

Answer: D

Diff: 2

Terms: manufacturing-sector companies

Objective: 5

AACSB: Reflective thinking

50) Product cost for reimbursement under government contracts may include all costs EXCEPT:

- A) marketing costs
- B) design costs
- C) production costs
- D) research and development costs

Answer: A

Diff: 2

Terms: contracting with government agencies

Objective: 5

AACSB: Reflective thinking

51) The following information pertains to the Cannady Corporation:

Beginning work-in-process inventory	\$ 50,000
Ending work-in-process inventory	48,000
Beginning finished goods inventory	180,000
Ending finished goods inventory	195,000
Cost of goods manufactured	1,220,000

What is cost of goods sold?

A) \$1,235,000

B) \$1,205,000

C) \$1,218,000

D) \$1,222,000

Answer: B

Explanation: B) $\$180,000 + \$1,220,000 - \$195,000 = \$1,205,000$

Diff: 3

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

52) The following information pertains to the Duggan Corporation:

Beginning work-in-process inventory	\$ 20,000
Ending work-in-process inventory	23,000
Beginning finished goods inventory	36,000
Ending finished goods inventory	34,000
Cost of goods manufactured	246,000

What is cost of goods sold?

A) \$244,000

B) \$248,000

C) \$243,000

D) \$249,000

Answer: B

Explanation: B) $\$36,000 + \$246,000 - \$34,000 = \$248,000$

Diff: 2

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Beginning finished goods, 1/1/20X3	\$ 90,000
Ending finished goods, 12/31/20X3	77,000
Cost of goods sold	270,000
Sales revenue	500,000
Operating expenses	155,000

53) What is cost of goods manufactured for 20X3?

- A) \$230,000
- B) \$257,000
- C) \$283,000
- D) \$355,000

Answer: B

Explanation: B) $\$270,000 + \$77,000 - \$90,000 = \$257,000$

Diff: 2

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

54) What is gross margin for 20X3?

- A) \$283,000
- B) \$355,000
- C) \$230,000
- D) \$257,000

Answer: C

Explanation: C) $\$500,000 - \$270,000 = \$230,000$

Diff: 2

Terms: revenues, period costs

Objective: 5

AACSB: Analytical skills

55) What is operating income for 20X3?

- A) \$75,000
- B) \$112,000
- C) \$62,000
- D) \$230,000

Answer: A

Explanation: A) $\$500,000 - \$270,000 - \$155,000 = \$75,000$

Diff: 2

Terms: revenues, period costs

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Beginning finished goods, 1/1/20X5	\$ 40,000
Ending finished goods, 12/31/20X5	33,000
Cost of goods sold	250,000
Sales revenue	600,000
Operating expenses	120,000

56) What is cost of goods manufactured for 20X5?

- A) \$257,000
- B) \$350,000
- C) \$243,000
- D) \$250,000

Answer: C

Explanation: C) $\$250,000 + \$33,000 - \$40,000 = \$243,000$

Diff: 2

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

57) What is gross margin for 20X5?

- A) \$243,000
- B) \$527,000
- C) \$357,000
- D) \$350,000

Answer: D

Explanation: D) $\$600,000 - \$250,000 = \$350,000$

Diff: 2

Terms: revenues

Objective: 5

AACSB: Analytical skills

58) What is operating income for 20X5?

- A) \$230,000
- B) \$123,000
- C) \$107,000
- D) \$157,000

Answer: A

Explanation: A) $\$600,000 - \$250,000 - \$120,000 = \$230,000$

Diff: 2

Terms: revenues, period costs

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

The Singer Company manufactures several different products. Unit costs associated with Product ICT101 are as follows:

Direct materials	\$ 60
Direct manufacturing labor	10
Variable manufacturing overhead	18
Fixed manufacturing overhead	32
Sales commissions (2% of sales)	4
Administrative salaries	<u>16</u>
Total	<u>\$140</u>

59) What are the inventoriable costs per unit associated with Product ICT101?

- A) \$120
- B) \$140
- C) \$50
- D) \$88

Answer: A

Explanation: A) $\$60 + \$10 + \$18 + \$32 = \$120$

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Analytical skills

60) What are the period costs per unit associated with Product ICT101?

- A) \$4
- B) \$16
- C) \$20
- D) \$52

Answer: C

Explanation: C) $\$4 + 16 = \20

Diff: 2

Terms: period costs

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

The East Company manufactures several different products. Unit costs associated with Product ORD203 are as follows:

Direct materials	\$50
Direct manufacturing labor	8
Variable manufacturing overhead	10
Fixed manufacturing overhead	23
Sales commissions (2% of sales)	5
Administrative salaries	<u>9</u>
Total	<u>\$105</u>

61) What are the inventoriable costs per unit associated with Product ORD203?

- A) \$60
- B) \$66
- C) \$48
- D) \$91

Answer: D

Explanation: D) $\$50 + \$8 + \$10 + \$23 = \$91$

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Analytical skills

62) What are the period costs per unit associated with Product ORD203?

- A) \$14
- B) \$5
- C) \$9
- D) \$26

Answer: A

Explanation: A) $\$5 + \$9 = \$14$

Diff: 2

Terms: period costs

Objective: 5

AACSB: Analytical skills

63) For last year, Wampum Enterprises reported revenues of \$420,000, cost of goods sold of \$108,000, cost of goods manufactured of \$101,000, and total operating costs of \$70,000. Operating income for that year was:

- A) \$319,000
- B) \$312,000
- C) \$249,000
- D) \$242,000

Answer: D

Explanation: D) $\$420,000 - \$108,000 - \$70,000 = \$242,000$

Diff: 2

Terms: revenues, cost of goods manufactured, period costs

Objective: 5

AACSB: Analytical skills

64) For last year, Wampum Enterprises reported revenues of \$420,000, cost of goods sold of \$108,000, cost of goods manufactured of \$101,000, and total operating costs of \$70,000. Gross margin for last year was:

- A) \$319,000
- B) \$312,000
- C) \$249,000
- D) \$242,000

Answer: B

Explanation: B) $\$420,000 - \$108,000 = \$312,000$

Diff: 2

Terms: revenues, cost of goods manufactured, period costs

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

For last year, Lewisburn Manufacturing reported the following:

Revenue	\$420,000
Beginning inventory of direct materials, January 1	22,000
Purchases of direct materials	146,000
Ending inventory of direct materials, December 31	16,000
Direct manufacturing labor	18,000
Indirect manufacturing costs	40,000
Beginning inventory of finished goods, January 1	35,000
Cost of goods manufactured	104,000
Ending inventory of finished goods, December 31	36,000
Operating costs	140,000

65) What was Lewisburn's cost of goods sold?

- A) \$103,000
- B) \$152,000
- C) \$268,000
- D) \$317,000

Answer: A

Explanation: A) $\$35,000 + \$104,000 - \$36,000 = \$103,000$

Diff: 3

Terms: revenues, cost of goods manufactured

Objective: 5

AACSB: Analytical skills

66) What was Lewisburn's gross margin (or gross profit)?

- A) \$103,000
- B) \$152,000
- C) \$268,000
- D) \$317,000

Answer: D

Explanation: $D) \$420,000 - (\$35,000 + \$104,000 - \$36,000) = \$317,000$

Diff: 3

Terms: revenues, cost of goods manufactured

Objective: 5

AACSB: Analytical skills

67) What was Lewisburn's operating income?

- A) \$76,000
- B) \$128,000
- C) \$177,000
- D) \$280,000

Answer: C

Explanation: $C) \$420,000 - (\$35,000 + \$104,000 - \$36,000) - \$140,000 = \$177,000$

Diff: 3

Terms: revenues, cost of goods manufactured

Objective: 5

AACSB: Analytical skills

68) How much of the above would be considered period costs for Lewisburn Manufacturing?

- A) \$104,000
- B) \$140,000
- C) \$246,000
- D) \$390,000

Answer: B

Explanation: B) \$140,000

Diff: 3

Terms: period costs

Objective: 5

AACSB: Analytical skills

69) Service-sector companies provide services or intangible products to their customers.

Answer: TRUE

Diff: 1

Terms: service-sector companies

Objective: 5

AACSB: Reflective thinking

70) Google would be an example of a merchandising company.

Answer: FALSE

Explanation: Google would be an example of a service-sector company.

Diff: 2

Terms: service-sector companies, merchandising-sector companies

Objective: 5

AACSB: Use of Information Technology

71) Merchandising companies purchase products and sell them to customers without changing their basic form.

Answer: TRUE

Diff: 2

Terms: merchandising-sector companies

Objective: 5

AACSB: Reflective thinking

72) Merchandising companies hold only one type of inventory: direct material.

Answer: FALSE

Explanation: Merchandising companies normally hold only one type of inventory: merchandise inventory.

Diff: 2

Terms: merchandising-sector companies

Objective: 5

AACSB: Reflective thinking

73) Manufacturing sector firms normally hold three types of inventory: direct materials inventory, work-in-process inventory, and finished goods inventory.

Answer: TRUE

Diff: 2

Terms: merchandising-sector companies

Objective: 5

AACSB: Reflective thinking

74) Work-in-process inventory are goods partially worked on but not yet completed.

Answer: TRUE

Diff: 2

Terms: work-in-process inventory

Objective: 5

AACSB: Reflective thinking

75) Direct material costs are the acquisition costs of all materials that eventually become part of the cost object and CANNOT be traced to the cost object in an economically feasible way.

Answer: FALSE

Explanation: Direct material costs can be traced to the cost object.

Diff: 2

Terms: direct costs of a cost object

Objective: 5

AACSB: Reflective thinking

76) Acquisition costs of direct materials include freight-in charges, sales taxes, and custom duties.

Answer: TRUE

Diff: 2

Terms: direct material costs

Objective: 5

AACSB: Reflective thinking

77) Indirect manufacturing costs include the compensation of all manufacturing labor that can be traced to the cost object in an economically feasible way.

Answer: FALSE

Explanation: Direct manufacturing labor costs include the compensation of all manufacturing labor that can be traced to the cost object.

Diff: 2

Terms: indirect manufacturing costs

Objective: 5

AACSB: Reflective thinking

78) Direct manufacturing labor includes wages and fringe benefits paid to machine operators.

Answer: TRUE

Diff: 2

Terms: direct manufacturing labor costs

Objective: 5

AACSB: Reflective thinking

79) Inventoriable costs are reported as an expense when incurred and expensed on the income statement when the product is sold.

Answer: FALSE

Explanation: Inventoriable costs are reported as an asset when incurred and expensed on the income statement when the product is sold.

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

80) Cost of goods sold refers to the products brought to completion, whether they were started before or during the current accounting period.

Answer: FALSE

Explanation: Cost of goods *manufactured* refers to the products brought to completion, whether they were started before or during the current accounting period.

Diff: 1

Terms: finished-goods inventory, cost of goods manufactured

Objective: 5

AACSB: Reflective thinking

81) Operating income is sales revenue minus operating expenses.

Answer: FALSE

Explanation: Operating income = sales revenue - cost of goods sold - operating expenses

Diff: 1

Terms: operating income

Objective: 5

AACSB: Reflective thinking

82) All manufacturing costs are inventoriable costs.

Answer: TRUE

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

83) All costs reported on the income statement of a service-sector company are period costs.

Answer: TRUE

Diff: 1

Terms: period costs

Objective: 5

AACSB: Reflective thinking

84) Period costs are never included as part of inventory.

Answer: TRUE

Diff: 1

Terms: period costs

Objective: 5

AACSB: Reflective thinking

85) Conversion costs include all direct manufacturing costs.

Answer: FALSE

Explanation: Prime costs include all direct manufacturing costs.

Diff: 1

Terms: conversion costs

Objective: 5

AACSB: Reflective thinking

86) Inventory of a manufacturing firm includes goods partially worked on but NOT yet fully completed.

Answer: TRUE

Diff: 1

Terms: work-in-process inventory

Objective: 5

AACSB: Reflective thinking

87) The wages of a plant supervisor would be classified as a period cost.

Answer: FALSE

Explanation: The wages of a plant supervisor would be classified as a *product* cost.

Diff: 2

Terms: period costs

Objective: 5

AACSB: Reflective thinking

88) For external reporting, GAAP requires that costs be classified as either variable or fixed.

Answer: FALSE

Explanation: For external reporting, GAAP requires that costs be classified as either product or period costs.

Diff: 2

Terms: fixed cost, variable cost

Objective: 5

AACSB: Reflective thinking

89) Depreciation can be classified as either an inventoriable cost or a period cost, depending on what is being depreciated.

Answer: TRUE

Diff: 2

Terms: inventoriable costs, period costs

Objective: 5

AACSB: Reflective thinking

90) Depreciation on a factory can be classified as a period cost.

Answer: FALSE

Explanation: Depreciation on a factory is classified as a product cost.

Diff: 2

Terms: inventoriable costs, period costs

Objective: 5

AACSB: Reflective thinking

91) Springfield Manufacturing produces electronic storage devices, and uses the following three-part classification for its manufacturing costs: direct materials, direct manufacturing labor, and indirect manufacturing costs. Total indirect manufacturing costs for January were \$300 million, and were allocated to each product on the basis of direct manufacturing labor costs of each line. Summary data (in millions) for January for the most popular electronic storage device, the Big Bertha, was:

	Big Bertha
Direct manufacturing costs	\$4,500,000
Direct manufacturing labor costs	\$1,500,000
Indirect manufacturing costs	\$4,250,000
Units produced	40,000

Required:

- a. Compute the manufacturing cost per unit for each product produced in January.
- b. Suppose production will be reduced to 30,000 units in February. Speculate as to whether the unit costs in February will most likely be higher or lower than unit costs in January; it is not necessary to calculate the exact February unit cost. Briefly explain your reasoning.

Answer:

- a. Unit costs for January were:

$$(\$4,500,000 + \$1,500,000 + \$4,250,000) / 40,000 = \$256.25 \text{ per unit}$$

- b. Unit costs should be higher in February if only 30,000 units are to be produced. Indirect manufacturing costs most likely include both fixed and variable components. Since fewer units are expected to be produced in February, total fixed costs will be spread over fewer units. This will result in an increase in total cost per unit since variable costs per unit will most likely not change with the decreased production.

Diff: 2

Terms: unit cost

Objective: 2, 4, 5

AACSB: Analytical skills

92) Whippany manufacturing wants to estimate costs for each product they produce at its Troy plant. The Troy plant produces three products at this plant, and runs two flexible assembly lines. Each assembly line can produce all three products.

Required:

- Classify each of the following costs as either direct or indirect for each product.
- Classify each of the following costs as either fixed or variable with respect to the number of units produced of each product.

	<u>Direct</u>	<u>Indirect</u>	<u>Fixed</u>	<u>Variable</u>
Assembly line labor wages	_____	_____	_____	_____
Plant manager's wages	_____	_____	_____	_____
Depreciation on the assembly line equipment	_____	_____	_____	_____
Component parts for the product	_____	_____	_____	_____
Wages of security personnel for the factory	_____	_____	_____	_____

Answer:

	<u>Direct</u>	<u>Indirect</u>	<u>Fixed</u>	<u>Variable</u>
Assembly line labor wages	X			X
Plant manager's wages		X	X	
Depreciation on the assembly line equipment		X	X	
Component parts for the product	X			X
Wages of security personnel for the factory		X		X

Diff: 2

Terms: fixed cost, variable cost, direct cost, indirect cost

Objective: 2, 4, 5

AACSB: Analytical skills

93) Hammer Inc., had the following activities during 2012:

Direct materials:	
Beginning inventory	\$ 20,000
Purchases	61,600
Ending inventory	10,400
Direct manufacturing labor	16,000
Manufacturing overhead	12,000
Beginning work-in-process inventory	800
Ending work-in-process inventory	4,000
Beginning finished goods inventory	24,000
Ending finished goods inventory	16,000

Required:

- What is the cost of direct materials used during 2012?
- What is cost of goods manufactured for 2012?
- What is cost of goods sold for 2012?
- What amount of prime costs was added to production during 2012?
- What amount of conversion costs was added to production during 2012?

Answer:

- $\$20,000 + \$61,600 - \$10,400 = \$71,200$
- $\$71,200 + \$16,000 + \$12,000 + \$800 - \$4,000 = \$96,000$
- $\$96,000 + \$24,000 - \$16,000 = \$104,000$
- $\$71,200 + \$16,000 = \$87,200$
- $\$16,000 + \$12,000 = \$28,000$

Diff: 2

Terms: direct cost, indirect cost, prime cost, conversion cost

Objective: 5

AACSB: Analytical skills

94) Helmer Sporting Goods Company manufactured 100,000 units in 20X5 and reported the following costs:

Sandpaper	\$ 32,000	Leasing costs-plant	\$ 384,000
Materials handling	320,000	Depreciation-equipment	224,000
Coolants & lubricants	22,400	Property taxes-equipment	32,000
Indirect manufacturing labor	275,200	Fire insurance-equipment	16,000
Direct manufacturing labor	2,176,000	Direct material purchases	3,136,000
Direct materials, 1/1/X5	384,000	Direct materials, 12/31/X5	275,200
Finished goods, 1/1/X5	672,000	Sales revenue	12,800,000
Finished goods, 12/31/X5	1,280,000	Sales commissions	640,000
Work-in-process, 1/1/X5	96,000	Sales salaries	576,000
Work-in-process, 12/31/X5	64,000	Advertising costs	480,000
		Administration costs	800,000

Required:

- What is the amount of direct materials used during 20X5?
- What manufacturing costs were added to WIP during 20X5?
- What is cost of goods manufactured for 20X5?
- What is cost of goods sold for 20X5?

Answer:

a. $\$384,000 + \$3,136,000 - \$275,200 = \$3,244,800$

b. $\$3,244,800 + \$2,176,000 + \$32,000 + \$320,000 + \$22,400 + \$275,200 + \$384,000 + \$224,000 + \$32,000 + \$16,000 = \$6,726,400$

c. $\$6,726,400 + \$96,000 - \$64,000 = \$6,758,400$

d. $\$6,758,400 + \$672,000 - \$1,280,000 = \$6,150,400$

Diff: 3

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

95) Messinger Manufacturing Company had the following account balances for the quarter ending March 31, unless otherwise noted:

Work-in-process inventory (January 1)	\$ 140,400
Work-in-process inventory (March 31)	171,000
Finished goods inventory (January 1)	540,000
Finished goods inventory (March 31)	510,000
Direct materials used	378,000
Indirect materials used	84,000
Direct manufacturing labor	480,000
Indirect manufacturing labor	186,000
Property taxes on manufacturing plant building	28,800
Salespersons' company vehicle costs	12,000
Depreciation of manufacturing equipment	264,000
Depreciation of office equipment	123,600
Miscellaneous plant overhead	135,000
Plant utilities	92,400
General office expenses	305,400
Marketing distribution costs	30,000

Required:

- Prepare a cost of goods manufactured schedule for the quarter.
- Prepare a cost of goods sold schedule for the quarter.

Answer:

a. **Messinger Manufacturing Company**
Cost of Goods Manufactured Schedule
For quarter ending March 31

Direct materials used	\$ 378,000
Direct manufacturing labor	480,000
Manufacturing overhead	
Depreciation of manufacturing equipment	\$264,000
Indirect manufacturing labor	186,000
Indirect materials	84,000
Miscellaneous plant overhead	135,000
Plant utilities	92,400
Property taxes on building	<u>28,800</u>
Manufacturing costs incurred	<u>790,200</u>
Add beginning work-in-process inventory	\$1,648,200
	<u>140,400</u>
Total manufacturing costs	\$1,788,600
Less ending work-in-process inventory	<u>(171,000)</u>
Cost of goods manufactured	<u>\$1,617,600</u>

b. **Messinger Manufacturing Company**
 Cost of Goods Sold Schedule
 For the quarter ending March 31

Beginning finished goods inventory	\$ 540,000
Cost of goods manufactured	<u>1,617,600</u>
Cost of goods available for sale	2,157,600
Ending finished goods inventory	<u>(510,000)</u>
Cost of goods sold	<u>\$1,647,600</u>

Diff: 2

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

96) Using the following information find the unknown amounts. Assume each set of information is an independent case.

a. Merchandise Inventory	Purchases	\$210,000
	Cost of goods sold	223,000
	Beginning balance	41,000
	Ending balance	?
b. Direct Materials	Beginning balance	\$ 7,000
	Ending balance	14,000
	Purchases	48,000
	Direct materials used	?
c. Work-in-process Inventory	Ending balance	\$ 22,000
	Cost of goods manufactured	21,000
	Beginning balance	8,000
	Current manufacturing costs	?
d. Finished Goods Inventory	Cost of goods manufactured	\$62,000
	Ending balance	20,000
	Cost of goods sold	61,000
	Beginning balance	?

Answer:

a. Ending balance of merchandise inventory:
 $\$41,000 + \$210,000 - \$223,000 = 28,000$

b. Direct materials used:
 $\$7,000 + \$48,000 - \$14,000 = \$41,000$

c. Current manufacturing costs:
 $\$21,000 + \$22,000 - \$8,000 = \$35,000$

d. Beginning balance of finished goods inventory:
 $\$20,000 + \$61,000 - \$62,000 = \$19,000$

Diff: 2

Terms: cost of goods manufactured

Objective: 5

AACSB: Analytical skills

97) Each of the following items pertains to one of these companies: Bedell Electronics (a manufacturing company), Gregory Food Retailers (a merchandising company), and Larson Real Estate (a service sector company). Classify each item as either inventoriable (I) costs or period (P) costs.

		inventoriable (I) costs or period (P) costs
a.	Salary of Bedell Electronics president	
b.	Depreciation on Bedell Electronics assembly equipment.	
c.	Salaries of Bedell's assembly line workers	
d.	Purchase of frozen food for sale to customers by Gregory Food Retailers	
e.	Salaries of frozen food personnel at Gregory Food Retailing	
f.	Depreciation on freezers at Gregory Food Retailing	
g.	Salary of a receptionist at Larson Real Estate	
h.	Depreciation on a computer at Larson Real Estate	
i.	Salary of a real estate agent at Larson Real Estate	

Answer:

		inventoriable (I) costs or period (P) costs
a.	Salary of Bedell Electronics president	P
b.	Depreciation on Bedell Electronics assembly equipment.	I
c.	Salaries of Bedell's assembly line workers	I
d.	Purchase of frozen food for sale to customers by Gregory Food Retailers	I
e.	Salaries of frozen food personnel at Gregory Food Retailing	I
f.	Depreciation on freezers at Gregory Food Retailing	P
g.	Salary of a receptionist at Larson Real Estate	P
h.	Depreciation on a computer at Larson Real Estate	P
i.	Salary of a real estate agent at Larson Real Estate	P

Diff: 2

Terms: inventoriable costs, period costs

Objective: 5

AACSB: Analytical skills

98) On the assembly floor, Cynthia Evans is paid \$20 an hour for straight-time and \$30 an hour for overtime. One week she worked 43 hours, which included 3 hours of overtime.

Required:

- a. What is Cynthia's total compensation for the week?
- b. What amount of compensation would be reported as direct manufacturing labor?
- c. What amount of compensation would be reported as manufacturing overhead?

Answer:

- a. Direct labor (43 hours \times \$20) + Overtime premium (3 hrs \times \$10) = \$890
- b. Direct manufacturing labor (43 hours \times \$20) = \$860
- c. Manufacturing overhead costs = Overtime premium (3 hrs \times \$10) = \$30

Diff: 2

Terms: overtime premium

Objective: 5

AACSB: Analytical skills

99) In the manufacturing plant, Terri Bird is paid \$40 an hour for straight-time and \$60 an hour for overtime. One week she worked 46 hours, which included 6 hours of overtime, and 4 hours of idle time caused by material shortages.

Required:

- a. What is Leslie's total compensation for the week?
- b. What amount of compensation would be reported as direct manufacturing labor?
- c. What amount of compensation would be reported as manufacturing overhead?

Answer:

- a. Direct manufacturing labor (42 hours \times \$40) + Idle time (4 hrs \times \$40) + Overtime premium (6 hrs \times \$20) = \$1,960
- b. Direct manufacturing labor (42 hours \times \$40) = \$1,680
- c. Manufacturing overhead costs = Idle time (4 hrs \times \$40) + Overtime premium (6 hrs \times \$20) = \$280

Diff: 2

Terms: overtime premium, idle time

Objective: 5

AACSB: Analytical skills

100) Bosely Manufacturing Co. wants to classify costs for the product produced at its facility. The company produces only one product at the facility and operates continually. The cost categories are:

Product cost
Prime cost
Conversion cost
Period cost

The following costs are found in the accounting records:

- a. Quality control inspection wages
- b. Raw material purchases
- c. Sales commissions
- d. Factory depreciation
- e. Assembly wages

Required:

Assign each of the above costs to the most appropriate cost categories.

Answer:

Product cost includes a, b, d, e.

Prime cost includes a, b, e.

Conversion cost includes a, d, e.

Period cost includes c.

Diff: 2

Terms: product costs

Objective: 5

AACSB: Analytical skills

101) What is the meaning of the term "cost object"? Give an example of a cost object that would be used in a manufacturing company, a merchandising company, and a service sector company?

Answer: A cost object is anything for which a measurement of costs is desired. An example of a cost object for a manufacturing company might be the cost of manufacturing a particular product. An example of a cost object for a merchandising company might be a particular department of a retail store. An example of a cost object for a service sector company might be the cost to serve or supply a particular customer.

Diff: 3

Terms: cost object

Objective: 1, 5

AACSB: Reflective thinking

102) Explain the difference between an inventoriable cost and a period cost. What potential problems does an inaccurate classification of product and period costs cause?

Answer: Inventoriable costs are all costs of a product that are considered as assets in the balance sheet when they are incurred and which become cost of goods sold only when the product is sold. Period costs are treated as expenses of the accounting period in which they are incurred. An inaccurate classification of inventoriable and period costs could lead to violations of the matching principle, which states that costs used in producing revenue should be matched on the income statement when the revenue is recognized. In extreme cases, net income for a given period might be significantly misstated if proper matching does not occur.

Diff: 2

Terms: inventoriable costs

Objective: 5

AACSB: Reflective thinking

Objective 2.6

1) Wages paid to machine operators on an assembly line are classified as a:

- A) direct material cost
- B) direct manufacturing labor cost
- C) manufacturing overhead cost
- D) period cost

Answer: B

Diff: 1

Terms: direct manufacturing labor costs

Objective: 6

AACSB: Reflective thinking

2) Product cost for pricing and product-mix decisions may include all costs EXCEPT:

- A) research and development costs
- B) customer-service costs
- C) marketing costs
- D) all of the above costs may be included in pricing and product mix decisions.

Answer: D

Diff: 2

Terms: product-mix decisions

Objective: 6

AACSB: Analytical skills

3) Product cost for financial statement purposes may include:

- A) all costs allowed by government agencies
- B) all costs included for pricing and product-mix decisions
- C) production costs
- D) all costs except marketing costs

Answer: C

Diff: 2

Terms: inventoriable costs

Objective: 6

AACSB: Reflective thinking

4) Product costs may refer to:

- A) inventoriable costs for external reporting
- B) design costs plus manufacturing costs for government contracts
- C) all costs incurred along the value chain for pricing decisions
- D) All of these answers are correct.

Answer: D

Diff: 3

Terms: product costs

Objective: 6

AACSB: Reflective thinking

5) Product costs used for pricing and product-mix decisions generally include:

- A) manufacturing costs only
- B) design costs plus manufacturing costs
- C) all costs incurred along the value chain
- D) distribution costs only

Answer: C

Diff: 3

Terms: product costs

Objective: 6

AACSB: Reflective thinking

6) Product costs used for government contracts generally include:

- A) manufacturing costs only
- B) design costs plus manufacturing costs
- C) all costs incurred along the value chain
- D) distribution costs only

Answer: B

Diff: 3

Terms: product costs

Objective: 6

AACSB: Reflective thinking

7) Product costs used for external reporting generally include:

- A) manufacturing costs only
- B) design costs plus manufacturing costs
- C) all costs incurred along the value chain
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: product costs

Objective: 6

AACSB: Reflective thinking

8) Inventoriable costs for external reporting purposes are also called:

- A) product costs
- B) period costs
- C) variable costs
- D) direct manufacturing costs

Answer: A

Diff: 1

Terms: inventoriable costs

Objective: 6

AACSB: Reflective thinking

9) For external reporting:

- A) costs are classified as either inventoriable or period costs
- B) costs reflect current values
- C) there are no prescribed rules since no one is exactly sure how investors and creditors will use these numbers
- D) costs include amounts that reflect both current and future benefits

Answer: A

Diff: 2

Terms: inventoriable costs, period costs

Objective: 6

AACSB: Reflective thinking

10) Which of the following statements is FALSE?

- A) Product costs and inventoriable costs are interchangeable terms.
- B) Inventoriable costs are important for GAAP.
- C) Inventoriable costs are a special case of period costs.
- D) "Product costs" refers to the particular costs of a product for the purpose at hand.

Answer: C

Diff: 3

Terms: product costs, inventoriable costs

Objective: 6

AACSB: Reflective thinking

11) Debated items that some companies include as direct manufacturing labor include:

- A) fringe benefits
- B) vacation pay
- C) training time
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: direct manufacturing labor costs

Objective: 6

AACSB: Reflective thinking

12) Mario Garcia is paid \$20 an hour for straight-time and \$30 an hour for overtime. One week she worked 42 hours, which included 2 hours of overtime. Compensation would be reported as:

- A) \$800 of direct labor and \$60 of manufacturing overhead
- B) \$800 of direct labor and \$0 of manufacturing overhead
- C) \$840 of direct labor and \$20 of manufacturing overhead
- D) \$860 of direct labor and \$0 of manufacturing overhead

Answer: C

Explanation: C) Direct labor (42 hours \times \$20) + Overtime premium (2 hrs \times \$10) = \$860

Diff: 2

Terms: overtime premium, direct manufacturing labor costs

Objective: 6

AACSB: Analytical skills

13) Dave Rigby is paid \$20 an hour for straight-time and \$30 an hour for overtime. One week he worked 45 hours, which included 5 hours of overtime, and 3 hours of idle time caused by material shortages. Compensation would be reported as:

- A) \$740 of direct labor and \$210 of manufacturing overhead
- B) \$840 of direct labor and \$110 of manufacturing overhead
- C) \$900 of direct labor and \$50 of manufacturing overhead
- D) \$890 of direct labor and \$60 of manufacturing overhead

Answer: B

Explanation: B) Direct labor (42 hours \times \$20) + Idle time (3 hrs \times \$20) + Overtime premium (5 hrs \times \$10) = \$810

Diff: 3

Terms: overtime premium, direct manufacturing labor costs, idle time

Objective: 6

AACSB: Analytical skills

14) Lou Marinaro worked 44 hours last week for Breakbad Manufacturing. Of the 44 hours 4 hours were considered overtime, and also Marinaro was idle for 5 of the 44 hours due to an equipment malfunction. Marinaro makes \$40 per hour and is paid \$60 an hour (time and a half) for overtime. Marinaro's total compensation for that week would be _____, and assuming Breakbad charges overtime premium and idle time to indirect labor, the amount of this compensation credited to indirect labor would be _____.

- A) \$1,680; \$80
- B) \$1,680; \$280
- C) \$1,840; \$80
- D) \$1,840; \$280

Answer: D

Explanation: D) total compensation (40 \times \$40) + (4 \times \$60) = \$1,840;
indirect labor (5 \times \$40) + (4 \times \$20) = \$280

Diff: 3

Terms: indirect manufacturing costs, overtime premium, idle time

Objective: 6

AACSB: Analytical skills

15) Overtime premium consists of the wages paid to all workers (for both direct labor and indirect labor) in excess of their straight-time wage rates.

Answer: TRUE

Diff: 1

Terms: overtime premium

Objective: 6

AACSB: Reflective thinking

16) A product cost that is useful for one decision may not be useful information for another decision.

Answer: TRUE

Diff: 2

Terms: product costs

Objective: 6

AACSB: Analytical skills

17) For external reporting purposes, indirect manufacturing costs must be allocated to individual units.

Answer: TRUE

Diff: 2

Terms: indirect manufacturing costs, cost allocation

Objective: 6

AACSB: Reflective thinking

18) Overtime premium is normally considered as a component of direct labor.

Answer: FALSE

Explanation: Overtime premium is normally considered as part of indirect labor since it is usually not associated with a particular job.

Diff: 2

Terms: direct manufacturing labor costs, overtime premium

Objective: 6

AACSB: Reflective thinking

19) If a worker is paid for 40 hours, but is idle for 5 of those 40 hours, the 5 hour of idle time would be considered a component of direct labor.

Answer: FALSE

Explanation: Idle time is normally considered a component of indirect labor since it is usually not associated with a particular job.

Diff: 2

Terms: direct manufacturing labor costs, overtime premium

Objective: 6

AACSB: Analytical skills

20) When should the overtime premium of direct manufacturing labor be considered an indirect manufacturing cost? A direct manufacturing cost?

Answer: The overtime premium of direct manufacturing labor should be considered an indirect manufacturing cost when it is attributable to the overall volume of work, and a direct manufacturing cost when a "rush job" is the sole source of the overtime.

Diff: 2

Terms: overtime premium

Objective: 6

AACSB: Reflective thinking

21) In determining product cost, what concerns does a manufacturing firm have when contracting with a government agency?

Answer: Government contracts often reimburse on the basis of "cost of a product" plus a prespecified profit margin. Government agencies provide detailed guidelines on the cost items they allow and disallow when calculating the cost of a product. For example, expenses such as marketing, distribution, and customer service costs may be prohibited.

Diff: 2

Terms: product costs

Objective: 6

AACSB: Reflective thinking

Objective 2.7

1) When making decisions:

A) it is best to use average costs

B) it is best to use unit costs

C) it is best to use total costs rather than unit costs

D) All of these types of costs can be used for decision making; it varies depending on the decision required.

Answer: D

Diff: 2

Terms: average cost, total cost, unit cost

Objective: 7

AACSB: Ethical reasoning

2) Budgeting often plays a major role in affecting behavior and decisions.

Answer: TRUE

Diff: 1

Terms: cost

Objective: 7

AACSB: Ethical reasoning

3) Cost accounting and cost management include calculating various costs, obtaining financial and nonfinancial information, and analyzing relevant information for decision making.

Answer: TRUE

Diff: 1

Terms: cost, variable cost

Objective: 7

AACSB: Reflective thinking

4) A costing system traces direct costs and allocates indirect costs to products.

Answer: TRUE

Diff: 2

Terms: cost tracing, cost allocation

Objective: 7

AACSB: Reflective thinking

5) Management accountants help managers identify which information is relevant to a particular decision.

Answer: TRUE

Diff: 1

Terms: cost

Objective: 7

AACSB: Ethical reasoning

6) When making strategic decisions about which products to produce, managers do NOT need to know how revenues and costs vary with changes in output level.

Answer: FALSE

Explanation: Managers need to know how revenues and costs vary with changes in output level.

Diff: 1

Terms: relevant revenues, relevant costs

Objective: 7

AACSB: Ethical reasoning

7) The following information pertains to Ball Company:

Manufacturing costs	\$2,400,000
Units manufactured	40,000
Beginning inventory	0 units

39,800 units are sold during the year for \$100 per unit.

Required:

- What is the average manufacturing cost per unit?
- What is the amount of ending finished goods inventory?
- What is the amount of gross margin?

Answer:

a. $\$2,400,000 / 40,000 = \60.00

b. $(40,000 - 39,800) \times \$60 = \$12,000$

c. $39,800 \times (\$100 - \$60) = \$1,592,000$

Diff: 2

Terms: unit cost, finished goods

Objective: 3, 4, 7

AACSB: Analytical skills

Cost Accounting, 14e (Horngren/Datar/Rajan)

Chapter 3 Cost-Volume-Profit Analysis

Objective 3.1

1) Cost-volume-profit analysis is used primarily by management:

- A) as a planning tool
- B) for control purposes
- C) to prepare external financial statements
- D) to attain accurate financial results

Answer: A

Diff: 1

Terms: cost-volume-profit (CVP)

Objective: 1

AACSB: Communication

2) One of the first steps to take when using CVP analysis to help make decisions is:

- A) finding out where the total costs line intersects with the total revenues line on a graph.
- B) identifying which costs are variable and which costs are fixed.
- C) calculation of the degree of operating leverage for the company.
- D) estimating how many products will have to be sold to make a decent profit.

Answer: B

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Reflective thinking

3) Cost-volume-profit analysis assumes all of the following EXCEPT:

- A) all costs are variable or fixed
- B) units manufactured equal units sold
- C) total variable costs remain the same over the relevant range
- D) total fixed costs remain the same over the relevant range

Answer: C

Diff: 2

Terms: cost-volume-profit (CVP)

Objective: 1

AACSB: Reflective thinking

4) Which of the following items is NOT an assumption of CVP analysis?

- A) Total costs can be divided into a fixed component and a component that is variable with respect to the level of output.
- B) When graphed, total costs curve upward.
- C) The unit-selling price is known and constant.
- D) All revenues and costs can be added and compared without taking into account the time value of money.

Answer: B

Diff: 3

Terms: cost-volume-profit (CVP)

Objective: 1

AACSB: Reflective thinking

5) Which of the following items is NOT an assumption of CVP analysis?

- A) Costs may be separated into separate fixed and variable components.
- B) Total revenues and total costs are linear in relation to output units.
- C) Unit selling price, unit variable costs, and unit fixed costs are known and remain constant.
- D) Proportion of different products will remain constant when multiple products are sold.

Answer: C

Diff: 3

Terms: cost-volume-profit (CVP)

Objective: 1

AACSB: Reflective thinking

6) A revenue driver is defined as:

- A) any factor that affects costs and revenues
- B) any factor that affects revenues
- C) only factors that can influence a change in selling price
- D) only factors that can influence a change in demand

Answer: B

Diff: 1

Terms: revenue driver

Objective: 1

AACSB: Reflective thinking

7) Operating income calculations use:

- A) net income
- B) income tax expense
- C) cost of goods sold and operating costs
- D) nonoperating revenues and nonoperating expenses

Answer: C

Diff: 2

Terms: revenue driver

Objective: 1

AACSB: Reflective thinking

8) Which of the following statements about net income (NI) is true?

- A) NI = operating income plus nonoperating revenue.
- B) NI = operating income plus operating costs.
- C) NI = operating income less income taxes.
- D) NI = operating income less cost of goods sold.

Answer: C

Diff: 1

Terms: net income

Objective: 1

AACSB: Reflective thinking

9) Which of the following is true about the assumptions underlying basic CVP analysis?

- A) Only selling price is known and constant.
- B) Only selling price and variable cost per unit are known and constant.
- C) Only selling price, variable cost per unit, and total fixed costs are known and constant.
- D) Selling price, variable cost per unit, fixed cost per unit, and total fixed costs are known and constant.

Answer: C

Diff: 2

Terms: cost-volume-profit (CVP)

Objective: 1

AACSB: Reflective thinking

10) The contribution income statement:

- A) reports gross margin
- B) is allowed for external reporting to shareholders
- C) categorizes costs as either direct or indirect
- D) can be used to predict future profits at different levels of activity

Answer: D

Diff: 1

Terms: contribution income statement

Objective: 1

AACSB: Reflective thinking

11) Contribution margin equals:

- A) revenues minus period costs
- B) revenues minus product costs
- C) revenues minus variable costs
- D) revenues minus fixed costs

Answer: C

Diff: 1

Terms: contribution margin

Objective: 1

AACSB: Reflective thinking

Answer the following questions using the information below:

Sherry's Custom Jewelry sells a single product. 700 units were sold resulting in \$7,000 of sales revenue, \$2,800 of variable costs, and \$1,200 of fixed costs.

12) Contribution margin per unit is:

- A) \$4.00
- B) \$4.29
- C) \$6.00
- D) None of these answers are correct.

Answer: C

Explanation: C) $(\$7,000 - \$2,800) / 700 \text{ units} = \6 per unit

Diff: 2

Terms: contribution margin per unit

Objective: 1

AACSB: Analytical skills

13) If sales increase by \$25,000, operating income will increase by:

- A) \$10,000
- B) \$15,000
- C) \$22,200
- D) None of these answers are correct.

Answer: B

Explanation: B) $[(\$7,000 - \$2,800) / \$7,000] \times \$25,000 = \$15,000$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

Answer the following questions using the information below:

Holly's Ham, Inc. sells hams during the major holiday seasons. During the current year 11,000 hams were sold resulting in \$220,000 of sales revenue, \$55,000 of variable costs, and \$24,000 of fixed costs.

14) Contribution margin per ham is:

- A) \$5.00
- B) \$15.00
- C) \$20.00
- D) None of these answers are correct.

Answer: B

Explanation: B) $(\$220,000 - \$55,000) / 11,000 \text{ hams} = \15 per ham

Diff: 2

Terms: contribution margin per unit

Objective: 1

AACSB: Analytical skills

15) If sales increase by \$40,000, operating income will increase by:

- A) \$10,000
- B) \$20,000
- C) \$30,000
- D) None of these answers are correct.

Answer: C

Explanation: C) $\text{Price} = \$220,000 / 11,000 = \20.00

Sales in hams = $\$40,000 / \$20.00 = 2,000$ hams

Operating Income increase = $2,000 \text{ hams} \times \$15.00 \text{ per} = \$30,000$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

16) Kenefic Company sells its only product for \$9 per unit, variable production costs are \$3 per unit, and selling and administrative costs are \$1.50 per unit. Fixed costs for 10,000 units are \$5,000. The contribution margin is:

- A) \$6 per unit
- B) \$4.50 per unit
- C) \$5.50 per unit
- D) \$4 per unit

Answer: B

Explanation: B) $\$9 - \$3 - \$1.60 = \4.50

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

17) The contribution income statement highlights:

- A) gross margin
- B) products costs and period costs
- C) different product lines
- D) variable and fixed costs

Answer: D

Diff: 2

Terms: contribution income statement

Objective: 1

AACSB: Communication

18) Fixed costs equal \$12,000, unit contribution margin equals \$20, and the number of units sold equal 1,600. Operating income is:

A) \$12,000

B) \$20,000

C) \$32,000

D) \$40,000

Answer: B

Explanation: B) $(1,600 \times \$20) - \$12,000 = \$20,000$

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

19) If selling price per unit is \$30, variable costs per unit are \$20, total fixed costs are \$10,000, the tax rate is 30%, and the company sells 5,000 units, net income is:

A) \$12,000

B) \$14,000

C) \$28,000

D) \$40,000

Answer: C

Explanation: C) $[((\$30 - \$20) \times 5,000) - \$10,000] \times (1.0 - .3) = \$28,000$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

Answer the following questions using the information below:

Northenscold Company sells several products. Information of average revenue and costs is as follows:

Selling price per unit	\$20.00
Variable costs per unit:	
Direct material	\$4.00
Direct manufacturing labor	\$1.60
Manufacturing overhead	\$0.40
Selling costs	\$2.00
Annual fixed costs	\$96,000

20) The contribution margin per unit is:

- A) \$6
- B) \$8
- C) \$12
- D) \$14

Answer: C

Explanation: C) $\$20 - \$4 - \$1.60 - \$0.40 - \$2 = \12

Diff: 2

Terms: contribution margin per unit

Objective: 1

AACSB: Analytical skills

21) All of the following are assumed in the above analysis EXCEPT:

- A) a constant product mix
- B) fixed costs increase when activity increases
- C) cost and revenue relationships are reflected accurately
- D) all costs can be classified as either fixed or variable

Answer: B

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Reflective thinking

Answer the following questions using the information below:

Franscioso Company sells several products. Information of average revenue and costs is as follows:

Selling price per unit	\$28.50
Variable costs per unit:	
Direct material	\$5.25
Direct manufacturing labor	\$1.15
Manufacturing overhead	\$0.25
Selling costs	\$1.85
Annual fixed costs	\$110,000

22) The contribution margin per unit is:

- A) \$15
- B) \$20
- C) \$22
- D) \$125

Answer: B

Explanation: B) $\$28.50 - \$5.25 - \$1.15 - \$0.25 - \$1.85$

Diff: 2

Terms: contribution margin per unit

Objective: 1

AACSB: Analytical skills

23) All of the following are assumed in the above analysis EXCEPT:

- A) a constant product mix
- B) all costs can be classified as either fixed or variable
- C) cost and revenue relationships are reflected accurately
- D) per unit variable costs increase when activity increases

Answer: D

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

Answer the following questions using the information below:

Dr. Charles Hunter, MD, performs a certain outpatient procedure for \$1,000. His fixed costs are \$20,000, while his variable costs are \$500 per procedure. Dr. Hunter currently plans to perform 200 procedures this month.

24) What is the budgeted revenue for the month assuming that Dr. Hunter plans to perform this procedure 200 times?

- A) \$100,000
- B) \$200,000
- C) \$300,000
- D) \$400,000

Answer: B

Explanation: B) $200 \times \$1,000 = \$200,000$

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

25) What is the budgeted operating income for the month assuming that Dr. Hunter plans to perform the procedure 200 times?

- A) \$200,000
- B) \$100,000
- C) \$80,000
- D) \$40,000

Answer: C

Explanation: C) $\$200,000 - [(200 \times \$500) + \$20,000]; \$200,000 - \$120,000 = \$80,000$

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

Answer the following questions using the information below:

Nancy's Niche sells a single product. 8,000 units were sold resulting in \$80,000 of sales revenue, \$20,000 of variable costs, and \$10,000 of fixed costs.

26) The contribution margin percentage is:

- A) 12.5%
- B) 25.0%
- C) 37.5%
- D) 75.0%

Answer: D

Explanation: D) $(\$80,000 - \$20,000) / \$80,000 = 75\%$

Diff: 2

Terms: contribution margin percentage

Objective: 1

AACSB: Analytical skills

27) To achieve \$100,000 in operating income, sales must total:

- A) \$440,000
- B) \$160,000
- C) \$130,000
- D) None of these answers are correct.

Answer: D

Explanation: D) $(\$100,000 + \$10,000) / 75\% = \$146,667$ in sales

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

28) Gross margin is:

- A) sales revenue less variable costs
- B) sales revenue less cost of goods sold
- C) contribution margin less fixed costs
- D) contribution margin less variable costs

Answer: B

Diff: 1

Terms: gross margin percentage

Objective: 1

AACSB: Reflective thinking

29) In the merchandising sector:

- A) only variable costs are subtracted to determine gross margin
- B) fixed overhead costs are subtracted to determine gross margin
- C) fixed overhead costs are subtracted to determine contribution margin
- D) all operating costs are subtracted to determine contribution margin

Answer: A

Diff: 2

Terms: gross margin percentage

Objective: 1

AACSB: Reflective thinking

30) In the manufacturing sector:

- A) only variable costs are subtracted to determine gross margin
- B) fixed overhead costs are subtracted to determine gross margin
- C) fixed overhead costs are subtracted to determine contribution margin
- D) all operating costs are subtracted to determine contribution margin

Answer: B

Diff: 2

Terms: gross margin percentage

Objective: 1

AACSB: Reflective thinking

31) To determine contribution margin use:

- A) only variable manufacturing costs
- B) only fixed manufacturing costs
- C) both variable and fixed manufacturing costs
- D) both variable manufacturing costs and variable nonmanufacturing costs

Answer: D

Diff: 2

Terms: contribution margin

Objective: 1

AACSB: Reflective thinking

32) To perform cost-volume-profit analysis, a company must be able to separate costs into fixed and variable components.

Answer: TRUE

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

33) Contribution margin = Contribution margin percentage * Revenues (in dollars)

Answer: TRUE

Diff: 1

Terms: contribution margin

Objective: 1

AACSB: Analytical skills

34) It is assumed in CVP analysis that the unit selling price, unit variable costs, and unit fixed costs are known and constant.

Answer: FALSE

Explanation: It is assumed in CVP analysis that the unit selling price, unit variable costs, and *total* fixed costs are known and constant.

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

35) In CVP analysis, the number of output units is the only revenue driver.

Answer: TRUE

Diff: 2

Terms: cost-volume-profit (CVP) analysis, revenue driver

Objective: 1

AACSB: Reflective thinking

36) Many companies find even the simplest CVP analysis helps with strategic and long-range planning.

Answer: TRUE

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Analytical skills

37) The difference between total revenues and total variable costs is called contribution margin.

Answer: TRUE

Diff: 2

Terms: contribution margin

Objective: 1

AACSB: Reflective thinking

38) In CVP analysis, variable costs include direct variable costs, but do NOT include indirect variable costs.

Answer: FALSE

Explanation: In CVP analysis variable costs include direct variable costs and indirect variable costs.

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Reflective thinking

39) In CVP analysis, an assumption is made that the total revenues are linear with respect to output units, but that total costs are non-linear with respect to output units.

Answer: FALSE

Explanation: In CVP analysis, an assumption is made that the total revenues and the total costs are non-linear with respect to output units.

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1

AACSB: Reflective thinking

40) A revenue driver is defined as a variable that causes changes in prices.

Answer: FALSE

Explanation: A revenue driver is defined as a variable that causes changes in revenues.

Diff: 2

Terms: revenue driver

Objective: 1

AACSB: Reflective thinking

41) If the selling price per unit is \$50 and the contribution margin percentage is 40%, then the variable cost per unit must be \$20.

Answer: FALSE

Explanation: Then the variable cost per unit must be \$30, [$\$50 - (.40 \times \$50)$] = \$30.

Diff: 2

Terms: contribution margin

Objective: 1

AACSB: Analytical skills

42) Total revenues less total fixed costs equal the contribution margin.

Answer: FALSE

Explanation: Total revenues less total variable costs equal the *contribution margin*.

Diff: 1

Terms: contribution margin

Objective: 1

AACSB: Reflective thinking

43) Gross margin is reported on the contribution income statement.

Answer: FALSE

Explanation: Gross margin is reported on the absorption costing income statement.

Diff: 1

Terms: contribution income statement

Objective: 1

AACSB: Analytical skills

44) If the selling price per unit of a product is \$30, variable costs per unit are \$20, and total fixed costs are \$10,000 and a company sells 5,000 units, operating income would be \$40,000.

Answer: TRUE

Diff: 2

Terms: contribution income statement

Objective: 1

AACSB: Analytical skills

45) Service sector companies will never report gross margin on an income statement.

Answer: TRUE

Diff: 2

Terms: gross margin percentage

Objective: 1

AACSB: Communication

46) For merchandising firms, contribution margin will always be a lesser amount than gross margin.

Answer: TRUE

Explanation: True, because all variable costs are subtracted to compute contribution margin, but only COGS is subtracted to compute gross margin.

Diff: 3

Terms: contribution margin

Objective: 1

AACSB: Analytical skills

47) Contribution margin and gross margin are terms that can be used interchangeably.

Answer: FALSE

Explanation: Contribution margin and gross margin refer to different amounts.

Revenues - all variable costs = contribution margin; Revenues - COGS = gross margin

Diff: 1

Terms: contribution margin

Objective: 1

AACSB: Communication

48) Gross Margin will always be greater than contribution margin.

Answer: FALSE

Explanation: If variable costs are low and/or manufacturing fixed costs are high, then contribution margin can easily be greater than gross margin.

Revenues - all variable costs = contribution margin; Revenues - COGS = gross margin

Diff: 1

Terms: contribution margin

Objective: 1

AACSB: Reflective thinking

49) Jacob's Manufacturing sales is equal to production. If Jacob's Manufacturing presented a Financial Accounting Income Statement emphasizing gross margin showing operating income of \$180,000, a Contribution Income Statement emphasizing contribution margin would show a different operating income.

Answer: FALSE

Explanation: If Jacob's Manufacturing presented a Financial Accounting Income Statement emphasizing gross margin showing operating income of \$180,000, a Contribution Income Statement emphasizing contribution margin would show the same operating income.

Diff: 2

Terms: contribution income statement

Objective: 1

AACSB: Communication

50) Jennifer's Stuffed Animals reported the following:

Revenues	\$2,000
Variable manufacturing costs	\$ 400
Variable nonmanufacturing costs	\$ 460
Fixed manufacturing costs	\$ 300
Fixed nonmanufacturing costs	\$ 280

Required:

- Compute contribution margin.
- Compute gross margin.
- Compute operating income.

Answer:

- Contribution margin $\$2,000 - \$400 - \$460 = \$1,140$
- Gross margin $\$2,000 - \$400 - \$300 = \$1,300$
- Operating income $\$2,000 - \$400 - \$460 - \$300 - \$280 = \560

Diff: 2

Terms: contribution margin

Objective: 1

AACSB: Analytical skills

51) Arthur's Plumbing reported the following:

Revenues	\$4,500
Variable manufacturing costs	\$ 900
Variable nonmanufacturing costs	\$ 810
Fixed manufacturing costs	\$ 630
Fixed nonmanufacturing costs	\$ 545

Required:

- Compute contribution margin.
- Compute contribution margin percentage.
- Compute gross margin.
- Compute gross margin percentage.
- Compute operating income.

Answer:

- Contribution margin $\$4,500 - \$900 - \$810 = \$2,790$
- Contribution margin percentage $= (\$2,790/\$4,500) \times 100 = 62\%$
- Gross margin $\$4,500 - \$900 - \$630 = \$2,970$
- Gross margin percentage $= (\$2,970/\$4,500) \times 100 = 66\%$
- Operating income $\$4,500 - \$900 - \$810 - \$630 - \$545 = \$1,615$

Diff: 2

Terms: contribution margin percentage, gross margin percentage

Objective: 1

AACSB: Analytical skills

Objective 3.2

1) The selling price per unit less the variable cost per unit is the:

- fixed cost per unit
- gross margin
- margin of safety
- contribution margin per unit

Answer: D

Diff: 1

Terms: contribution margin

Objective: 2

AACSB: Reflective thinking

Answer the following questions using the information below:

Sherry's Custom Jewelry sells a single product. 700 units were sold resulting in \$7,000 of sales revenue, \$2,800 of variable costs, and \$1,200 of fixed costs.

2) Breakeven point in units is:

- A) 200 units
- B) 300 units
- C) 500 units
- D) None of these answers are correct.

Answer: A

Explanation: A) $(\$7,000 - \$2,800)/700 = \$6$ Contribution Margin Per Unit. $\$1,200/\$6 = 200$ units

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

3) The number of units that must be sold to achieve \$6,000 of operating income is:

- A) 1,000 units
- B) 1,166 units
- C) 1,200 units
- D) None of these answers are correct.

Answer: C

Explanation: C) $(\$7,000 - \$2,800)/700 = \$6$. $(\$1,200 + \$6,000)/\$6 = 1,200$ units

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Holly's Ham, Inc. sells hams during the major holiday seasons. During the current year 11,000 hams were sold resulting in \$220,000 of sales revenue, \$55,000 of variable costs, and \$24,000 of fixed costs.

4) Breakeven point in units is:

- A) 1,000 hams
- B) 1,200 hams
- C) 1,600 hams
- D) None of these answers are correct.

Answer: C

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

5) The number of hams that must be sold to achieve \$75,000 of operating income is:

A) 6,600 hams

B) 7,500 hams

C) 8,400 hams

D) None of these answers are correct.

Answer: A

Explanation: A) $20X - 5X - 24,000 = 75,000$; $X = 6,600$ hams

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

6) At the breakeven point of 2,000 units, variable costs total \$4,000 and fixed costs total \$6,000. The 2,001st unit sold will contribute _____ to profits.

A) \$1

B) \$2

C) \$3

D) \$5

Answer: C

Explanation: C) Fixed costs of $\$6,000 / 2,000$ units = Contribution Margin of \$3 per unit.

Diff: 3

Terms: contribution margin

Objective: 2

AACSB: Analytical skills

7) The breakeven point is the activity level where:

A) revenues equal fixed costs

B) revenues equal variable costs

C) contribution margin equals variable costs

D) revenues equal the sum of variable and fixed costs

Answer: D

Diff: 3

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

8) Breakeven point is:

A) total costs divided by variable costs per unit

B) contribution margin per unit divided by revenue per unit

C) fixed costs divided by contribution margin per unit

D) the sum of fixed and variable costs divided by contribution margin per unit

Answer: C

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

9) Sales total \$200,000 when variable costs total \$150,000 and fixed costs total \$30,000. The breakeven point in sales dollars is:

- A) \$200,000
- B) \$120,000
- C) \$ 40,000
- D) \$ 30,000

Answer: B

Explanation: B) $(\$200,000 - \$150,000) / \$200,000 = 25\% \text{ CM\%}; \$30,000 / 0.25 = \$120,000 \text{ BE sales}$

Diff: 3

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

10) The breakeven point in CVP analysis is defined as:

- A) when fixed costs equal total revenues
- B) fixed costs divided by the contribution margin per unit
- C) revenues less variable costs equal operating income
- D) when the contribution margin percentage equals total revenues divided by variable costs

Answer: B

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

11) Which of the following statements about determining the breakeven point is FALSE?

- A) Operating income is equal to zero.
- B) Contribution margin - fixed costs is equal to zero.
- C) Revenues equal fixed costs plus variable costs.
- D) Breakeven revenues equal fixed costs divided by the variable cost per unit.

Answer: D

Diff: 3

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

12) What is the breakeven point in units, assuming a product's selling price is \$100, fixed costs are \$8,000, unit variable costs are \$20, and operating income is \$3,200?

- A) 100 units
- B) 300 units
- C) 400 units
- D) 500 units

Answer: A

Explanation: A) Unit Selling Price of \$100 - Unit Variable Cost \$20 = Unit Contribution Margin of \$80. Fixed Costs of \$8,000 / \$80 = 100 units

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

13) If unit outputs exceed the breakeven point:

- A) there is a loss
- B) total sales revenue exceeds total costs
- C) there is a profit
- D) Both total sales revenue exceeds total costs and there is a profit.

Answer: D

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

14) How many units would have to be sold to yield a target operating income of \$22,000, assuming variable costs are \$15 per unit, total fixed costs are \$2,000, and the unit selling price is \$20?

- A) 4,800 units
- B) 4,400 units
- C) 4,000 units
- D) 3,600 units

Answer: A

Explanation: A) $(\$2,000 + \$22,000) / (\$20 - \$15) = 4,800$ units

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

15) If the breakeven point is 1,000 units and each unit sells for \$50, then:

- A) selling 1,250 units will result in a profit
- B) sales of \$40,000 will result in a loss
- C) sales of \$50,000 will result in zero profit
- D) All of these answers are correct.

Answer: D

Explanation: D) $1,000 \times \$50 = \$50,000$ of BE sales

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

16) If breakeven point is 1,000 units, each unit sells for \$30, and fixed costs are \$10,000, then on a graph the:

- A) total revenue line and the total cost line will intersect at \$30,000 of revenue
- B) total cost line will be zero at zero units sold
- C) revenue line will start at \$10,000
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

17) When fixed costs are \$40,000 and variable costs are 20% of the selling price, then breakeven sales are:

- A) \$40,000
- B) \$50,000
- C) \$200,000
- D) indeterminable

Answer: B

Explanation: B) $\$40,000 / (1 - 0.20) = \$50,000$ in BE sales

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Ruben intends to sell his customers a special round-trip airline ticket package. He is able to purchase the package from the airline carrier for \$150 each. The round-trip tickets will be sold for \$200 each and the airline intends to reimburse Ruben for any unsold ticket packages. Fixed costs include \$5,000 in advertising costs.

18) What is the contribution margin per ticket package?

- A) \$50
- B) \$100
- C) \$150
- D) \$200

Answer: A

Explanation: A) $\$200 - \$150 = \$50$

Diff: 1

Terms: contribution margin per unit

Objective: 2

AACSB: Analytical skills

19) How many ticket packages will Ruben need to sell to break even?

- A) 34 packages
- B) 50 packages
- C) 100 packages
- D) 150 packages

Answer: C

Explanation: C) $\$200X - \$150X - \$5,000 = 0$; $X = 100$

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

20) How many ticket packages will Ruben need to sell in order to achieve \$60,000 of operating income?

- A) 367 packages
- B) 434 packages
- C) 1,100 packages
- D) 1,300 packages

Answer: D

Explanation: $D) \$200X - \$150X - \$5,000 = \$60,000; X = 1,300$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

21) For every \$25,000 of ticket packages sold, operating income will increase by:

- A) \$6,250
- B) \$12,500
- C) \$18,750
- D) an indeterminable amount

Answer: A

Explanation: $A) \$25,000 \times [(\$200 - \$150 / \$200)] = \$6,250$

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Northenscold Company sells several products. Information of average revenue and costs is as follows:

Selling price per unit	\$20.00
Variable costs per unit:	
Direct material	\$4.00
Direct manufacturing labor	\$1.60
Manufacturing overhead	\$0.40
Selling costs	\$2.00
Annual fixed costs	\$96,000

22) The number of units that Northenscold's must sell each year to break even is:

- A) 8,000 units
- B) 12,000 units
- C) 16,000 units
- D) indeterminable

Answer: A

Explanation: $A) \$20X - \$8X - \$96,000 = 0; X = 8,000 \text{ units}$

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

23) The number of units that Northenscold's must sell annually to make a profit of \$144,000 is:

- A) 12,000 units
- B) 18,000 units
- C) 20,000 units
- D) 30,000 units

Answer: C

Explanation: C) $20X - \$8X - \$96,000 = \$144,000$; $X = 20,000$ units

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Franscioso Company sells several products. Information of average revenue and costs is as follows:

Selling price per unit	\$28.50
Variable costs per unit:	
Direct material	\$5.25
Direct manufacturing labor	\$1.15
Manufacturing overhead	\$0.25
Selling costs	\$1.85
Annual fixed costs	\$110,000

24) The number of units that Franscioso must sell each year to break even is:

- A) 1,000 units
- B) 4,000 units
- C) 5,500 units
- D) indeterminable

Answer: C

Explanation: C) $28.5 X - 8.5 X - 110,000 = 0$; $X = 5,500$ units

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

25) The number of units that Franscioso must sell annually to make a profit of \$90,000 is:

- A) 10,000 units
- B) 12,000 units
- C) 15,000 units
- D) 20,000 units

Answer: A

Explanation: A) $28.5 X - 8.5 X - 90,000 = 0$; $X = 10,000$ units

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

The following information is for Nichols Company:

Selling price	\$50 per unit
Variable costs	\$30 per unit
Total fixed costs	\$100,000

26) The number of units that Nichols Company must sell to reach targeted operating income of \$30,000 is:

- A) 5,000 units
- B) 6,500 units
- C) 3,334 units
- D) 4,334 units

Answer: B

Explanation: B) $(\$100,000 + \$30,000) / (\$50 - \$30) = 6,500$ units

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

27) If targeted operating income is \$40,000, then targeted sales revenue is:

- A) \$350,000
- B) \$233,333
- C) \$166,667
- D) \$250,000

Answer: A

Explanation: A) $(\$100,000 + \$40,000) / [(\$50 - \$30) / \$50] = \$350,000$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Stephanie's Bridal Shoppe sells wedding dresses. The average selling price of each dress is \$1,000, variable costs are \$400, and fixed costs are \$90,000.

28) What is the Bridal Shoppe's operating income when 200 dresses are sold?

- A) \$30,000
- B) \$80,000
- C) \$200,000
- D) \$100,000

Answer: A

Explanation: A) $200(\$1,000) - 200(\$400) - \$90,000 = \$30,000$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

29) How many dresses are sold when operating income is zero?

- A) 225 dresses
- B) 150 dresses
- C) 100 dresses
- D) 90 dresses

Answer: B

Explanation: B) $\$1,000N - \$400N - \$90,000 = 0$; $\$600N = \$90,000$; $N = 150$ dresses

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Dr. Charles Hunter, MD, performs a certain outpatient procedure for \$1,000. His fixed costs are \$20,000, while his variable costs are \$500 per procedure. Dr. Hunter currently plans to perform 200 procedures this month.

30) What is the breakeven point for the month assuming that Dr. Hunter plans to perform the procedure 200 times?

- A) 40 times
- B) 30 times
- C) 20 times
- D) 10 times

Answer: A

Explanation: A) $\$1,000N - \$500N - \$20,000 = 0$; $\$500N = \$20,000$; $N = 40$ times

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Nancy's Niche sells a single product. 8,000 units were sold resulting in \$80,000 of sales revenue, \$20,000 of variable costs, and \$10,000 of fixed costs.

31) The breakeven point in total sales dollars is:

- A) \$40,000
- B) \$13,334
- C) \$100,000
- D) None of these answers are correct.

Answer: B

Explanation: B) $\$10,000 / 0.75 = \$13,334$ (rounded up)

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Martha Manufacturing produces a single product that sells for \$80. Variable costs per unit equal \$32. The company expects total fixed costs to be \$72,000 for the next month at the projected sales level of 2,000 units. In an attempt to improve performance, management is considering a number of alternative actions. Each situation is to be evaluated separately.

32) What is the current breakeven point in terms of number of units?

- A) 1,500 units
- B) 2,250 units
- C) 3,333 units
- D) None of these answers are correct.

Answer: A

Explanation: A) $\$80X - \$32X - \$72,000 = 0$; $X = 1,500$ units

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Bush Manufacturing produces a single product that sells for \$100. Variable costs per unit equal \$25. The company expects total fixed costs to be \$60,000 for the next month at the projected sales level of 1,000 units. In an attempt to improve performance, management is considering a number of alternative actions. Each situation is to be evaluated separately.

33) What is the current breakeven point in terms of number of units?

- A) 800 units
- B) 900 units
- C) 2,400 units
- D) None of these answers are correct.

Answer: A

Explanation: A) $\$60,000/(\$100-\$25)$

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

34) The selling price per unit is \$25, variable cost per unit \$15, and fixed cost per unit is \$4. When this company operates above the breakeven point, the sale of one more unit will increase net income by \$6.

Answer: FALSE

Explanation: The sale of one more unit will increase net income by \$10, $(\$25 - \$15 = \$10)$.

Diff: 2

Terms: contribution income statement

Objective: 2

AACSB: Analytical skills

35) A company with sales of \$50,000, variable costs of \$35,000, and fixed costs of \$25,000 will reach its breakeven point if sales are increased by \$20,000.

Answer: FALSE

Explanation: $\$25,000 / 0.30 = \$83,333$ of total sales are needed to break even.

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Analytical skills

36) Breakeven point is NOT a good planning tool since the goal of business is to make a profit.

Answer: FALSE

Explanation: Breakeven point is an important planning tool that helps managers determine volume of sales/production needed to be profitable.

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

37) Breakeven point is that quantity of output where total revenues equal total costs.

Answer: TRUE

Diff: 1

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

38) In the graph method of CVP analysis, the breakeven point is the (X-axis) quantity of units sold for which the total revenues line crosses the total costs line.

Answer: TRUE

Diff: 1

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

39) In the graph method of CVP analysis, the total revenue line can be calculated by determining the total revenue at only one real output level because the starting point of the line is always the intersection of the X and Y axes.

Answer: TRUE

Diff: 1

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

40) A profit-volume graph shows the impact on operating income from changes in the output level.

Answer: TRUE

Diff: 1

Terms: PV Graph

Objective: 2

AACSB: Reflective thinking

41) If the selling price per unit of a product is \$50, variable costs per unit are \$40, and total fixed costs are \$50,000, a company must sell 6,000 units to make a target operating income of \$10,000.

Answer: TRUE

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 2

AACSB: Analytical skills

42) Gilley, Inc., sells a single product. The company's most recent income statement is given below.

Sales (4,000 units)	\$120,000
Less variable expenses	<u>(68,000)</u>
Contribution margin	52,000
Less fixed expenses	<u>(40,000)</u>
Net income	<u>\$ 12,000</u>

Required:

- a. Contribution margin per unit is \$ _____ per unit
- b. If sales are doubled to \$240,000, total variable costs will equal \$ _____
- c. If sales are doubled to \$240,000, total fixed costs will equal \$ _____
- d. If 10 more units are sold, profits will increase by \$ _____
- e. Compute how many units must be sold to break even. # _____
- f. Compute how many units must be sold to achieve profits of \$20,000. # _____

Answer:

- a. Contribution margin per unit is $\$30 - \$17 = \$13$
- b. $\$68,000 \times 2 = \$136,000$
- c. \$40,000
- d. Contribution margin of $\$13 \times 10 \text{ units} = \130
- e. Fixed costs of \$40,000 / Contribution margin per unit $\$13 = 3,077 \text{ units}$
- f. (Fixed costs of \$40,000 + Profits \$20,000) / CM per unit $\$13 = 4,616 \text{ units}$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1, 2

AACSB: Analytical skills

43) Black Pearl, Inc., sells a single product. The company's most recent income statement is given below.

Sales	\$50,000
Less variable expenses	<u>(30,000)</u>
Contribution margin	20,000
Less fixed expenses	<u>(12,500)</u>
Net income	<u>\$ 7,500</u>

Required:

- a. Contribution margin ratio is _____ %
- b. Breakeven point in total sales dollars is \$ _____
- c. To achieve \$40,000 in net income, sales must total \$ _____
- d. If sales increase by \$50,000, net income will increase by \$ _____

Answer:

- a. Contribution margin ratio is $\$20,000 / \$50,000 = 40\%$
- b. Fixed costs $\$12,500 / 0.40 \text{ CM}\% = \$31,250$ in sales
- c. $[\text{Fixed costs } \$12,500 + \text{Net income } \$40,000] / 0.40 \text{ CM}\% = \$131,250$ in sales
- d. $\$50,000 \times 0.40 \text{ CM}\% = \$20,000$ increase in net income

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 1, 2

AACSB: Analytical skills

44) Berhannan's Cellular sells phones for \$100. The unit variable cost per phone is \$50 plus a selling commission of 10%. Fixed manufacturing costs total \$1,250 per month, while fixed selling and administrative costs total \$2,500.

Required:

- a. What is the contribution margin per phone?
- b. What is the breakeven point in phones?
- c. How many phones must be sold to earn pretax income of \$7,500?

Answer:

a. $CM \text{ per phone} = \$100 - \$50 - 0.1(\$100) = \40

- b. $N = \text{Breakeven in phones}$

$$\$100N - \$50N - \$10N - \$1,250 - \$2,500 = 0$$

$$\$40N - \$3,750 = 0$$

$$N = \$3,750 / \$40 = 93.75 \text{ phones}$$

Breakeven is 94 phones

- c. $N = \text{Phones to be sold}$

$$\$100N - \$50N - \$10N - \$1,250 - \$2,500 = \$7,500$$

$$\$40N = \$11,250$$

$$N = \$11,250 / \$40 = 281.25 \text{ phones}$$

282 phones must be sold

Diff: 2

Terms: contribution margin per unit

Objective: 2

AACSB: Analytical skills

45) What is meant by the term breakeven point? Why should a manager be concerned about the breakeven point?

Answer: The breakeven point is the level of production and sales at which total revenues equal total costs. Managers should be concerned about the breakeven point because it helps determine when a business venture will be profitable. Breakeven point shows a company how far sales can decline before a net loss will be incurred. It helps to assess the risk of loss.

Diff: 2

Terms: breakeven point (BEP)

Objective: 2

AACSB: Reflective thinking

Objective 3.3

Answer the following questions using the information below:

Stephanie's Bridal Shoppe sells wedding dresses. The average selling price of each dress is \$1,000, variable costs are \$400, and fixed costs are \$90,000.

1) How many dresses must the Bridal Shoppe sell to yield after-tax net income of \$18,000, assuming the tax rate is 40%?

- A) 200 dresses
- B) 170 dresses
- C) 150 dresses
- D) 145 dresses

Answer: A

Explanation: A) $\$1,000N - \$400N - \$90,000 = \$18,000 / (1 - 0.4)$; $\$600N - \$90,000 = \$30,000$; $N = 200$ units

Diff: 3

Terms: net income

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

Assume the following cost information for Fernandez Company:

Selling price	\$120 per unit
Variable costs	\$80 per unit
Total fixed costs	\$80,000
Tax rate	40%

2) What minimum volume of sales dollars is required to earn an aftertax net income of \$30,000?

- A) \$465,000
- B) \$330,000
- C) \$390,000
- D) \$165,000

Answer: C

Explanation: C) $[\$80,000 + (\$30,000/0.6)] / [(\$120 - \$80) / \$120] = \$390,000$

Diff: 3

Terms: net income

Objective: 3

AACSB: Analytical skills

3) What is the number of units that must be sold to earn an after-tax net income of \$42,000?

A) 3,750 units

B) 4,625 units

C) 3,050 units

D) 1,875 units

Answer: A

Explanation: A) $[\$80,000 + (\$42,000 / 0.6)] / (\$120 - \$80) = 3,750$ units

Diff: 3

Terms: net income

Objective: 3

AACSB: Analytical skills

4) In CVP analysis, focusing on target net income rather than operating income:

A) will increase the breakeven point

B) will decrease the breakeven point

C) will not change the breakeven point

D) does not allow calculation of breakeven point

Answer: C

Diff: 2

Terms: net income

Objective: 3

AACSB: Reflective thinking

5) To determine the effect of income tax on a decision, managers should evaluate:

A) target operating income

B) contribution margin

C) target net income

D) selling price

Answer: C

Diff: 1

Terms: net income

Objective: 3

AACSB: Ethical reasoning

6) If the tax rate is t , it is possible to calculate planned operating income by:

A) dividing net income by t

B) dividing net income by $1 - t$

C) multiplying net income by t

D) multiplying net income by $1 - t$

Answer: B

Diff: 2

Terms: net income

Objective: 3

AACSB: Reflective thinking

7) If Bel Air Realtor plans an operating income of \$210,000 and the tax rate is 30%, then Bel Air's planned net income should be:

- A) \$63,000
- B) \$147,000
- C) \$273,000
- D) \$357,000

Answer: B

Explanation: B) $\$210,000 - (\$210,000 \times .3) = \$147,000$

Diff: 2

Terms: net income

Objective: 3

AACSB: Analytical skills

8) The Marietta Company has fixed costs of \$40,000 and variable costs are 75% of the selling price. To realize profits of \$10,000 from sales of 50,000 units, the selling price per unit:

- A) must be \$1.00
- B) must be \$1.33
- C) must be \$4.00
- D) is indeterminable

Answer: C

Explanation: C) $(\$40,000 + \$10,000) / .25 = \$200,000$ in sales / 50,000 units = \$4 per unit

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 3

AACSB: Analytical skills

9) An increase in the tax rate will increase the breakeven point.

Answer: FALSE

Explanation: A change in the tax rate will not change the breakeven point.

Diff: 2

Terms: net income

Objective: 3

AACSB: Analytical skills

10) When making net income evaluations, CVP calculations for target income must be stated in terms of target operating income instead of target net income.

Answer: FALSE

Explanation: Target net income must be used as income taxes will reduce the operating income.

Diff: 2

Terms: net income

Objective: 3

AACSB: Reflective thinking

11) If operating income is \$40,000 and the income tax rate is 30%, then net income will be \$28,000.

Answer: TRUE

Diff: 1

Terms: net income

Objective: 3

AACSB: Analytical skills

12) If planned net income is \$30,000 and the tax rate is 30%, then planned operating income would be \$39,000.

Answer: FALSE

Explanation: If planned net income is \$30,000 and the tax rate is 30%, then planned operating income would be \$42,857, [$\$30,000 / (1.0 - .3) = \$42,857$].

Diff: 2

Terms: net income

Objective: 3

AACSB: Analytical skills

13) The Holiday Card Company, a producer of specialty cards, has asked you to complete several calculations based upon the following information:

Income tax rate	30%
Selling price per unit	\$6.60
Variable cost per unit	\$5.28
Total fixed costs	\$46,200.00

Required:

- What is the breakeven point in cards?
- What sales volume is needed to earn an after-tax net income of \$13,028.40?
- How many cards must be sold to earn an after-tax net income of \$18,480?

Answer:

a. $\$46,200 / (\$6.60 - \$5.28) = 35,000$ units

b. $\$13,028.40 / 0.70 = \$18,612$
 $\$18,612 + \$46,200 = \$64,812$
 $\$64,812 / \$1.32 = 49,100$ units
 $49,100 \text{ units} \times \$6.60 = \$324,060$

c. $\$18,480 / 0.70 = \$26,400$
 $\$26,400 + \$46,200 = \$72,600$
 $\$72,600 / \$1.32 = 55,000$ units

Diff: 2

Terms: breakeven point (BEP), net income

Objective: 2, 3

AACSB: Analytical skills

14) James Corporation gathered the following information:

Variable costs	\$550,000
Income tax rate	40%
Contribution-margin ratio	30%

Required:

- Compute total fixed costs assuming a breakeven volume in dollars of \$2,000,000.
- Compute sales volume in dollars to produce an after-tax net income of \$150,000.

Answer:

a. $\$2,000,000 \times 0.30 = \$600,000$

b. $(\$600,000 + (\$150,000 \times (1-.40))/.30 = \$2,833,333.33$
or \$2,833,334 units rounding up to the next whole unit.

Diff: 3

Terms: cost-volume-profit (CVP) analysis, net income

Objective: 2, 3

AACSB: Analytical skills

15) What effect, and why, would an increase in the tax rate have on a company's breakeven point?

Answer: An increase in the tax rate would have no effect on the breakeven point. At the breakeven point, before-tax net income would be zero, so after-tax net income would also be zero regardless of the tax rate.

Diff: 2

Terms: breakeven point (BEP), net income

Objective: 3

AACSB: Reflective thinking

Objective 3.4

1) Assume only the specified parameters change in a cost-volume-profit analysis. If the contribution margin increases by \$6 per unit, then operating profits will:

- also increase by \$6 per unit
- increase by less than \$6 per unit
- decrease by \$6 per unit
- be indeterminable

Answer: A

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

- 2) The breakeven point decreases if:
- A) the variable cost per unit increases
 - B) total fixed costs decrease
 - C) the contribution margin per unit decreases
 - D) the selling price per unit decreases

Answer: B

Diff: 3

Terms: breakeven point (BEP)

Objective: 4

AACSB: Reflective thinking

- 3) (CPA adapted, November 1992) The strategy most likely to reduce the breakeven point would be to:

- A) increase both the fixed costs and the contribution margin
- B) decrease both the fixed costs and the contribution margin
- C) decrease the fixed costs and increase the contribution margin
- D) increase the fixed costs and decrease the contribution margin

Answer: C

Diff: 3

Terms: breakeven point (BEP)

Objective: 4

AACSB: Reflective thinking

- 4) Assume only the specified parameters change in a CVP analysis. The contribution margin percentage increases when:

- A) total fixed costs increase
- B) total fixed costs decrease
- C) variable costs per unit increase
- D) variable costs per unit decrease

Answer: D

Diff: 3

Terms: contribution margin percentage

Objective: 4

AACSB: Reflective thinking

- 5) Which of the following will increase a company's breakeven point?

- A) increasing variable cost per unit
- B) increasing contribution margin per unit
- C) reducing its total fixed costs
- D) increasing the selling price per unit

Answer: A

Diff: 3

Terms: breakeven point (BEP)

Objective: 4

AACSB: Reflective thinking

6) Assume there is a reduction in the selling price and all other CVP parameters remain constant. This change will:

- A) increase contribution margin
- B) reduce fixed costs
- C) increase variable costs
- D) reduce operating income

Answer: D

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Reflective thinking

7) Assume there is an increase in advertising expenditures and all other CVP parameters remain constant. This change will:

- A) reduce operating income
- B) reduce contribution margin
- C) increase variable costs
- D) increase selling price

Answer: A

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

8) Bassman Company operates on a contribution margin of 30% and currently has fixed costs of \$400,000. Next year, sales are projected to be \$2,000,000. An advertising campaign is being evaluated that costs an additional \$60,000. How much would sales have to increase to justify the additional expenditure?

- A) \$120,000
- B) \$180,000
- C) \$200,000
- D) \$600,000

Answer: C

Explanation: C) $\$60,000 / .3 = \$200,000$

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Martha Manufacturing produces a single product that sells for \$80. Variable costs per unit equal \$32. The company expects total fixed costs to be \$72,000 for the next month at the projected sales level of 2,000 units. In an attempt to improve performance, management is considering a number of alternative actions. Each situation is to be evaluated separately.

9) Suppose management believes that a \$16,000 increase in the monthly advertising expense will result in a considerable increase in sales. Sales must increase by how much to justify this additional expenditure?

- A) 200 units
- B) 334 units
- C) 500 units
- D) None of these answers are correct.

Answer: B

Explanation: B) $\$80X - \$32X - \$16,000 = 0$; $X = 334$ units to cover the expenditures

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

10) Suppose that management believes that a 10% reduction in the selling price will result in a 10% increase in sales. If this proposed reduction in selling price is implemented:

- A) operating income will decrease by \$8,000
- B) operating income will increase by \$8,000
- C) operating income will decrease by \$16,000
- D) operating income will increase by \$16,000

Answer: A

Explanation:

$$A) \$80 \times 10\% = \$8 \times 2,000 \text{ units} = (\$16,000)$$

$$2,000 \text{ units} \times 10\% = 200 \text{ units} \times (\$72 - \$32) = \underline{8,000}$$

$$\text{Change in operating income} \quad (\underline{\$8,000})$$

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Bush Manufacturing produces a single product that sells for \$100. Variable costs per unit equal \$25. The company expects total fixed costs to be \$60,000 for the next month at the projected sales level of 1,000 units. In an attempt to improve performance, management is considering a number of alternative actions. Each situation is to be evaluated separately.

11) Suppose that management believes that a \$24,000 increase in the monthly advertising expense will result in a considerable increase in sales. Sales must increase by how much to justify this additional expenditure?

- A) 320 units
- B) 1,120 units
- C) 240 units
- D) None of these answers are correct.

Answer: A

Explanation: A) $\$24,000 / (\$100 - \$25) = 320$ units to cover the expenditures

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

12) Suppose that management believes that a 20% reduction in the selling price will result in a 20% increase in sales. If this proposed reduction in selling price is implemented:

- A) operating income will decrease by \$9,000
- B) operating income will increase by \$9,000
- C) operating income will decrease by \$20,000
- D) operating income will increase by \$15,000

Answer: A

Explanation: A) Original contribution margin per unit $\$75 \times 1,000$ units = \$75,000 - \$60,000 fixed costs = Operating Income \$15,000

$\$100 - 20\% = \80 new sales price per unit

$\$80 - \$25 = \$55$ new contribution margin per unit

$1,000$ units + 20% increase in sales = 1,200 units

$\$55 \times 1,200$ units = \$66,000 - \$60,000 fixed costs = \$6,000 new operating income

Change in operating income (\$9,000)

Diff: 3

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Analytical skills

13) If contribution margin decreases by \$1 per unit, then operating profits will increase by \$1 per unit.

Answer: FALSE

Explanation: If contribution margin decreases by \$1 per unit, then operating profits will *decrease* by \$1 per unit.

Diff: 2

Terms: contribution margin per unit

Objective: 4

AACSB: Reflective thinking

14) If variable costs per unit increase, then the breakeven point will decrease.

Answer: FALSE

Explanation: If variable costs per unit increase, then the breakeven point will also *increase*.

Diff: 3

Terms: breakeven point (BEP)

Objective: 4

AACSB: Reflective thinking

15) A planned increase in advertising would be considered an increase in fixed costs in CVP analysis.

Answer: TRUE

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Reflective thinking

16) A planned decrease in selling price would be expected to cause an increase in the quantity sold.

Answer: TRUE

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: 4

AACSB: Reflective thinking

17) In 2011, Grant Company has sales of \$800,000, variable costs of \$200,000, and fixed costs of \$300,000. In 2012, the company expects annual property taxes to decrease by \$15,000.

Required:

a. Calculate operating income and the breakeven point for 2011.

b. Calculate the breakeven point for 2012.

Answer:

a. In 2011, operating income is \$800,000 sales revenue - \$200,000 variable costs - \$300,000 fixed costs = \$300,000.

The breakeven point for 2011 is \$400,000 in total sales dollars.

$\$600,000 \text{ CM} / \$800,000 \text{ sales revenue} = 0.75 \text{ CM ratio}$. $\$300,000 \text{ total fixed costs} / 0.75 \text{ CM ratio} = \$400,000$ in total sales to break even.

b. The breakeven point for 2012 is \$380,000 in total sales dollars.

$\$300,000 \text{ fixed costs} - \$15,000 \text{ reduction in property taxes} = \$285,000 \text{ estimated fixed costs for 2012}$. $\$285,000 \text{ total fixed costs} / 75\% \text{ CM ratio} = \$380,000$ in total sales to break even.

Diff: 2

Terms: breakeven point (BEP)

Objective: 1, 4

AACSB: Analytical skills

18) Furniture, Inc., sells lamps for \$30. The unit variable cost per lamp is \$22. Fixed costs total \$9,600.

Required:

- a. What is the contribution margin per lamp?
- b. What is the breakeven point in lamps?
- c. How many lamps must be sold to earn a pretax income of \$8,000?
- d. What is the margin of safety, assuming 1,500 lamps are sold?

Answer:

- a. Contribution margin per lamp = $\$30 - \$22 = \$8$
- b. N = Breakeven point in lamps
 $\$30N - \$22N - \$9,600 = 0$
 $\$8N - \$9,600 = 0$
 $N = \$9,600/\$8 = 1,200$ lamps
- c. N = Target sales in lamps
 $\$30N - \$22N - \$9,600 - \$8,000 = 0$
 $\$8N - \$17,600 = 0$
 $N = \$17,600/\$8 = 2,200$ lamps
- d. Margin of safety = Sales - Breakeven sales
 $= (\$30.00 \times 1,500) - \$36,000 = \$9,000$

Diff: 3

Terms: contribution margin per unit, margin of safety, breakeven point (BEP)

Objective: 2, 4

AACSB: Analytical skills

19) Tom's Tire Tower, Inc., sells tires for \$110. The unit variable cost per tire is \$85. Fixed costs total \$475,000.

Required:

- a. What is the contribution margin per tire?
- b. What is the breakeven point in tires?
- c. How many tires must be sold to earn a pretax income of \$450,000?
- d. What is the margin of safety, assuming 33,000 tires are sold?

Answer:

a. Contribution margin per tire = $\$110 - \$85 = \$25$

b. $N = \text{Breakeven point in tires}$

$$\$110N - \$85N - \$475,000 = 0$$

$$\$25N - \$475,000 = 0$$

$$N = \$475,000 / \$25 = 19,000 \text{ tires}$$

c. $N = \text{Target sales in tires}$

$$\$110N - \$85N - \$450,000 - \$475,000 = 0$$

$$\$25N - \$925,000 = 0$$

$$N = \$925,000 / \$25 = 37,000 \text{ tires}$$

d. Margin of safety = Sales - Breakeven sales

$$= (\$110 \times 33,000) - (\$110 \times 19,000) = \$1,540,000$$

Diff: 3

Terms: contribution margin per unit, margin of safety, breakeven point (BEP)

Objective: 2, 4

AACSB: Analytical skills

Objective 3.5

1) _____ is the process of varying key estimates to identify those estimates that are the most critical to a decision.

A) The graph method

B) A sensitivity analysis

C) The degree of operating leverage

D) Sales mix

Answer: B

Diff: 1

Terms: sensitivity analysis

Objective: 5

AACSB: Reflective thinking

- 2) The margin of safety is the difference between:
- A) budgeted expenses and breakeven expenses
 - B) budgeted revenues and breakeven revenues
 - C) actual operating income and budgeted operating income
 - D) actual contribution margin and budgeted contribution margin

Answer: B

Diff: 1

Terms: margin of safety

Objective: 5

AACSB: Reflective thinking

Answer the following questions using the information below:

Dr. Charles Hunter, MD, performs a certain outpatient procedure for \$1,000. His fixed costs are \$20,000, while his variable costs are \$500 per procedure. Dr. Hunter currently plans to perform 200 procedures this month.

- 3) What is the margin of safety assuming 100 procedures are budgeted?

- A) \$40,000 or 40 times
- B) \$50,000 or 50 times
- C) \$60,000 or 60 times
- D) \$100,000 or 100 times

Answer: C

Explanation:

- C) Breakeven in number of procedures = $\$20,000 / (\$1,000 - \$500) = 40$ times

Actual sales 100 times $\times \$1,000 = \$100,000$

Breakeven sales 40 times $\times \$1,000 = \underline{\$40,000}$

Margin of safety 60 times \$60,000

Diff: 3

Terms: margin of safety

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Nancy's Niche sells a single product. 8,000 units were sold resulting in \$80,000 of sales revenue, \$20,000 of variable costs, and \$10,000 of fixed costs.

- 4) If variable costs decrease by \$1 per unit, the new breakeven point is:

- A) 1,539 units.
- B) 492 units.
- C) \$11,765 in total sales dollars.
- D) None of these answers are correct.

Answer: C

Explanation: C) $[\$10 - (\$2.50 - \$1.00)] / \$10 = 85\%$; $\$10,000 / 0.85 = \$11,765$

Diff: 3

Terms: breakeven point (BEP)

Objective: 5

AACSB: Analytical skills

5) If a change is made in one parameter of CVP analysis, it is an example of:

- A) sensitivity analysis
- B) incremental budgeting
- C) operating leverage
- D) multiple cost drivers

Answer: A

Diff: 1

Terms: sensitivity analysis

Objective: 5

AACSB: Communication

6) Sensitivity analysis is a "what-if" technique that managers use to examine how a result will change if the originally predicted data are NOT achieved or if an underlying assumption changes.

Answer: TRUE

Diff: 1

Terms: sensitivity analysis

Objective: 5

AACSB: Reflective thinking

7) Margin of safety measures the difference between budgeted revenues and breakeven revenues.

Answer: TRUE

Diff: 1

Terms: margin of safety

Objective: 5

AACSB: Reflective thinking

8) If a company's breakeven revenue is \$1,000 and its budgeted revenue is \$1,250, then its margin of safety percentage is 25%.

Answer: FALSE

Explanation: The margin of safety percentage is 20% as the denominator of the ratio is the budgeted level and not the breakeven level.

Diff: 2

Terms: margin of safety

Objective: 5

AACSB: Analytical skills

9) Sensitivity analysis helps to evaluate the risk associated with decisions.

Answer: TRUE

Diff: 1

Terms: sensitivity analysis

Objective: 5

AACSB: Ethical reasoning

10) Alex Miller, Inc., sells car batteries to service stations for an average of \$30 each. The variable cost of each battery is \$20 and monthly fixed manufacturing costs total \$10,000. Other monthly fixed costs of the company total \$8,000.

Required:

- a. What is the breakeven point in batteries?
- b. What is the margin of safety, assuming sales total \$60,000?
- c. What is the breakeven level in batteries, assuming variable costs increase by 20%?
- d. What is the breakeven level in batteries, assuming the selling price goes up by 10%, fixed manufacturing costs decline by 10%, and other fixed costs decline by \$100?

Answer:

- a. $N = \text{Breakeven units}$
$$\$30N - \$20N - \$10,000 - \$8,000 = 0$$
$$\$10N - \$18,000 = 0$$
$$N = \$18,000/\$10 = 1,800 \text{ batteries}$$
- b. $\text{Margin of safety} = \$60,000 - (\$30 \times 1,800) = \$6,000$
- c. $N = \text{Breakeven units}$
$$\$30N - \$24N - \$10,000 - \$8,000 = 0$$
$$\$6N - \$18,000 = 0$$
$$N = \$18,000/\$6 = 3,000 \text{ batteries}$$
- d. $N = \text{Breakeven units}$
$$\$33N - \$20N - \$9,000 - \$7,900 = 0$$
$$\$13N - \$16,900 = 0 \quad N = \$16,900/\$13 = 1,300 \text{ batteries}$$

Diff: 2

Terms: cost-volume-profit (CVP) analysis, breakeven point (BEP), margin of safety

Objective: 2, 4, 5

AACSB: Analytical skills

11) Explain when a manager would use cost-volume-profit analysis and sensitivity analysis.

Answer: Cost-volume-profit analysis is helpful for evaluating the profit impact of management decisions that affect production and sales volume.

Sensitivity analysis is helpful for identifying those estimates most critical for a decision.

Diff: 2

Terms: cost-volume-profit (CVP) analysis, sensitivity analysis

Objective: 1, 5

AACSB: Reflective thinking

Objective 3.6

Answer the following questions using the information below:

Southwestern College is planning to hold a fundraising banquet at one of the local country clubs. It has two options for the banquet:

OPTION 1: *Crestview Country Club*

- a. Fixed rental cost of \$1,000
- b. \$12 per person for food

OPTION 2: *Tallgrass Country Club*

- a. Fixed rental cost of \$3,000
- b. A caterer who charges \$8.00 per person for food

Southwestern College has budgeted \$1,800 for administrative and marketing expenses. It plans to hire a band which will cost another \$800. Tickets are expected to be \$30 per person. Local business supporters will donate any other items required for the event.

1) Which option provides the least amount of risk?

- A) Option one
- B) Option two
- C) Both options provide the same amount of risk.
- D) Neither option has risks.

Answer: A

Diff: 1

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

2) Which option has the lowest breakeven point?

- A) Option one
- B) Option two
- C) Both options have the same breakeven point.
- D) The lowest breakeven point cannot be determined.

Answer: A

Explanation: A) Option 1: $\$30X - \$12X - \$1,000 - \$1,800 - \$800 = 0$; $X = \$200$

Option 2: $\$30X - \$8X - \$3,000 - \$1,800 - \$800 = 0$; $X = \$255$

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

3) Which option provides the greatest operating income if 600 people attend?

- A) Option one
- B) Option two
- C) Operating incomes are identical.
- D) Operating income is indeterminable.

Answer: B

Explanation: B) Option 1: $\$18 \times 600 - \$3,600 = \$7,200$; Option 2: $\$22 \times 600 - \$5,600 = \$7,600$

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

4) Which option provides the greatest degree of operating leverage if 600 people attend?

- A) Option one
- B) Option two
- C) Both options provide equal degrees of operating leverage.
- D) Operating leverage is indeterminable.

Answer: B

Explanation: B) Option 1: $\$18 \times 600 / \$7,200 = 1.50$; Option 2: $\$22 \times 600 / \$7,600 = 1.74$

Diff: 3

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

5) Option 1: Fixed costs of \$10,000 and a breakeven point of 500 units.

Option 2: Fixed costs of \$20,000 and a breakeven point of 700 units.

Which option should you choose if you are expecting to produce 600 units?

- A) Option one
- B) Option two
- C) Both options are equally desirable.
- D) The best option is indeterminable.

Answer: A

Explanation: A) Option 1 will result in operating income while Option 2 will result in an operating loss.

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

6) Mrs. Tannenbaum is going to sell Christmas tree lights for \$40 a box. The lights cost Mrs. Tannenbaum \$10 a box and any unsold lights can be returned for a full refund. She is planning to rent a booth at the upcoming Happy Holidays Convention, which offers three options:

1. paying a fixed fee of \$3,000, or
2. paying a \$1,000 fee plus 10% of revenues made at the convention, or
3. paying 25% of revenues made at the convention.

Which of the following statements is FALSE?

- A) Her decision will determine the risk she faces.
- B) Contribution margin will vary depending upon the option chosen.
- C) One of the options will allow Mrs. Tannenbaum to break even, even if she doesn't sell any lights.
- D) Operating income will be the greatest for Option 3.

Answer: D

Diff: 3

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

7) In a company with low operating leverage:

- A) fixed costs are high and variable costs are low
- B) large changes in sales volume result in small changes in net income
- C) there is a higher possibility of net loss than a higher-leveraged firm
- D) less risk is assumed than in a highly leveraged firm

Answer: D

Diff: 3

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

8) If the contribution margin ratio is 0.40, targeted operating income is \$80,000, and targeted sales volume in dollars is \$500,000, then total fixed costs are:

- A) \$80,000
- B) \$100,000
- C) \$120,000
- D) \$200,000

Answer: C

Explanation: C) $(X + \$80,000)/0.40 = \$500,000$; $X = \$120,000$

Diff: 3

Terms: contribution margin ratio

Objective: 6

AACSB: Analytical skills

9) If the contribution margin ratio is 0.40, targeted operating income is \$50,000, and fixed costs are \$75,000, then sales volume in dollars is:

- A) \$250,000
- B) \$312,500
- C) \$275,000
- D) \$350,000

Answer: B

Explanation: B) $X = (50,000 + 75,000) / .4$; $X = \$312,500$

Diff: 3

Terms: contribution margin ratio

Objective: 6

AACSB: Analytical skills

10) If the contribution margin ratio is 0.25, targeted operating income is \$25,000, and targeted sales volume in dollars is \$200,000, then total fixed costs are:

- A) \$50,000
- B) \$100,000
- C) \$75,000
- D) \$25,000

Answer: D

Explanation: D) $(X + \$25,000) / 0.25 = \$200,000$; $X = 25,000$

Diff: 3

Terms: contribution margin ratio

Objective: 6

AACSB: Analytical skills

11) Fixed costs:

- A) are considered variable costs over the long run
- B) provide less operating leverage
- C) reduce the risk of loss
- D) are graphed as a steeply sloped line

Answer: A

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

12) When a greater proportion of costs are fixed costs, then:

- A) a small increase in sales results in a small decrease in operating income
- B) when demand is low the risk of loss is high
- C) when demand is high the breakeven point is increased
- D) a decrease in sales reduces the cost per unit

Answer: B

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

13) Companies with a greater proportion of fixed costs have a greater risk of loss than companies with a greater proportion of variable costs.

Answer: TRUE

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

14) The degree of operating leverage at a specific level of sales helps the managers calculate the effect that potential changes in sales will have on operating income.

Answer: TRUE

Diff: 1

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

15) If a company increases fixed costs, then the breakeven point will be lower.

Answer: FALSE

Explanation: If a company increases fixed costs, then the breakeven point will be *higher*.

Diff: 3

Terms: breakeven point (BEP)

Objective: 6

AACSB: Reflective thinking

16) Companies that are substituting fixed costs for variable costs receive a greater per unit return above the breakeven point.

Answer: TRUE

Diff: 3

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

17) A company with a low degree of operating leverage is at greater risk during downturns in the economy.

Answer: FALSE

Explanation: A company with a low degree of operating leverage is at *lesser* risk during downturns in the economy.

Diff: 3

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

18) Whether the purchase cost of a machine is treated as fixed or variable depends heavily on the time horizon being considered.

Answer: TRUE

Diff: 1

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

19) If a company has a degree of operating leverage of 4.0, that means a 10% increase in sales will result in a 40% increase in variable costs.

Answer: FALSE

Explanation: If a company has a degree of operating leverage of 2.0, that means a 20% increase in sales will result in a 40% increase in operating income.

Diff: 3

Terms: operating leverage

Objective: 6

AACSB: Analytical skills

20) When a company has at least some fixed costs, the degree of operating leverage is different at different levels of sales.

Answer: TRUE

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

21) Query Company sells pillows for \$25.00 each. The manufacturing cost, all variable, is \$10 per pillow. The company is planning on renting an exhibition booth for both display and selling purposes at the annual crafts and art convention. The convention coordinator allows three options for each participating company. They are:

1. paying a fixed booth fee of \$5,010, or
2. paying an \$4,000 fee plus 10% of revenue made at the convention, or
3. paying 20% of revenue made at the convention.

Required:

- a. Compute the breakeven sales in pillows of each option.
- b. Which option should Query Company choose, assuming sales are expected to be 800 pillows?

Answer:

- a. Option 1 N = Breakeven in pillows

$$\$25N - \$10N - \$5,010 = 0$$

$$\$15N - \$5,010 = 0$$

$$N = \$5,010 / \$15 = 334 \text{ pillows}$$

- Option 2 N = Breakeven in pillows

$$\$25N - \$10N - 0.10(\$25N) - \$4,000 = 0$$

$$\$12.5N - \$4,000 = 0$$

$$N = \$4,000 / \$12.5 = 320 \text{ pillows}$$

- Option 3 N = Breakeven in pillows

$$\$25N - \$10N - 0.20(\$25N) = 0$$

$$\$10N - \$0 = 0$$

$$N = \$0 / \$10 = 0 \text{ pillows}$$

- b. Option 1 profit for 800 pillows = $\$15 \times 800 - \$5,010 = \$6,990$
Option 2 profit for 800 pillows = $\$12.5 \times 800 - 4,000 = \$6,000$
Option 3 profit for 800 pillows = $\$10 \times 800 = \$8,000$
Option 3 is the best choice.

Diff: 3

Terms: breakeven point (BEP), sensitivity analysis

Objective: 2, 6

AACSB: Analytical skills

22) Auto Tires has been in the tire business for four years. It rents a building but owns all of its equipment. All employees are paid a fixed salary except for the busy season (April-June), when temporary help is hired by the hour. Utilities and other operating charges remain fairly constant during each month except those in the busy season.

Selling prices per tire average \$75 except during the busy season. Because a large number of customers buy tires prior to winter, discounts run above average during the busy season. A 15% discount is given when two tires are purchased at one time. During the busy months, selling prices per tire average \$60.

The president of Auto Tires is somewhat displeased with the company's management accounting system because the cost behavior patterns displayed by the monthly breakeven charts are inconsistent; the busy months' charts are different from the other months of the year. The president is never sure if the company has a satisfactory margin of safety or if it is just above the breakeven point.

Required:

- a. What is wrong with the accountant's computations?
- b. How can the information be presented in a better format for the president?

Answer:

- a. The accounting system includes some assumptions about the CVP model that does not hold for Auto Tire. The CVP model requires cost and revenue to be linear. During the busy months, the company has costs and revenues which behave differently than during the other months of the year. The revenue line turns down (less slope) with the average selling price per tire decreasing from \$75 to \$60. The variable costs line probably turns upward (increasing slope) with the additional hourly workers being added to the work force.
- b. The accountant may want to present two sets of information regarding the revenue and cost behaviors of the company: one for the busy season and one for the other months of the year. It would show that while the breakeven point actually increases during the busy months (a negative), the marginal income increases because of increased sales (a positive).

Diff: 2

Terms: breakeven point (BEP)

Objective: 2, 6

AACSB: Reflective thinking

23) Dolph and Evan started the DE Restaurant in 20X3. They rented a building, bought equipment, and hired two employees to work full time at a fixed monthly salary. Utilities and other operating charges remain fairly constant during each month.

During the past two years, the business has grown with average sales increasing 1% a month. This situation pleases both Dolph and Evan, but they do not understand how sales can grow by 1% a month while profits are increasing at an even faster pace. They are afraid that one day they will wake up to increasing sales but decreasing profits.

Required:

Explain why the profits have increased at a faster rate than sales. Use the terms variable costs and fixed costs in your response.

Answer: The fixed cost per meal served is decreasing with increased volumes, while the contribution margin per meal served remains constant. Apparently, most of the restaurant's expenses are fixed. Therefore, as sales pass the breakeven point the profit will increase even faster because the fixed expenses have already been covered. This allows sales to cover only variable expenses before contributing to the profit margin, thereby causing it to increase at a faster rate.

Diff: 2

Terms: operating leverage, cost-volume-profit (CVP) analysis

Objective: 2, 6

AACSB: Reflective thinking

24) Freddie's company has mostly fixed costs and Valerie's company has mostly variable costs. Which company has the greatest risk of a net loss? Explain why

Answer: Freddie's company has the greatest risk of net loss because more units are required to reach breakeven point than for Valerie.

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

25) Suppose a company decided to automate a production line. Explain what effects this would have on a company's cost structure using CVP terminology. Could these changes have any possible negative effect on the firm?

Answer: An automated production line would increase fixed costs through extra depreciation on the new machinery and also decrease variable costs due to the elimination of direct labor as a result of automation. This would increase the breakeven point. This could possibly have a negative effect on the firm if demand for the product produced by this production line is expected to decline in the future. With high fixed costs and low demand, a decline in profits might be more severe due to the presence of unchanging fixed costs as volume drops.

Diff: 2

Terms: operating leverage

Objective: 6

AACSB: Reflective thinking

Objective 3.7

Answer the following questions using the information below:

The following information is for Barnett Corporation:

Product X: Revenue	\$10.00
Variable Cost	\$2.50
Product Y: Revenue	\$15.00
Variable Cost	\$5.00
Total fixed costs	\$50,000

1) What is the breakeven point assuming the sales mix consists of two units of Product X and one unit of Product Y?

- A) 1,000 units of Y and 2,000 units of X
- B) 1,013 units of Y and 2,025 units of X
- C) 2,013 units of Y and 4,025 units of X
- D) 2,000 units of Y and 4,000 units of X

Answer: D

Explanation:

D) $N = \text{units of product Y; and } 2N = \text{units of product X;}$
 $(\$10.00 - \$2.50)2N + (\$15.00 - \$5.00) N - \$50,000 = 0$
 $\$15N + \$10N = \$50,000$
 $\$25N = \$50,000$
 $N = 2,000 \text{ units}$

Product Y = 2,000 units; Product X = 4,000 units

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Analytical skills

2) What is the operating income, assuming actual sales total 150,000 units, and the sales mix is two units of Product X and one unit of Product Y?

- A) \$1,200,000
- B) \$1,250,000
- C) \$1,750,000
- D) None of these answers are correct.

Answer: A

Explanation:

A)	<u>Product X</u>	<u>Product Y</u>	<u>Total</u>
Sales units	<u>100,000</u>	<u>50,000</u>	<u>150,000</u>
Revenue	\$1,000,000	\$750,000	\$1,750,000
Var. costs	<u>250,000</u>	<u>250,000</u>	<u>500,000</u>
CM	<u>\$750,000</u>	<u>\$500,000</u>	\$1,250,000
Fixed costs			<u>50,000</u>
			<u>\$1,200,000</u>

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Analytical skills

3) If the sales mix shifts to one unit of Product X and two units of Product Y, then the weighted-average contribution margin will:

- A) increase per unit
- B) stay the same
- C) decrease per unit
- D) be indeterminable

Answer: A

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Reflective thinking

4) If the sales mix shifts to one unit of Product X and two units of Product Y, then the breakeven point will:

- A) increase
- B) stay the same
- C) decrease
- D) be indeterminable

Answer: C

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Analytical skills

Answer the following questions using the information below:

The following information is for the Jeffries Corporation:

Product A: Revenue	\$16.00
Variable Cost	\$12.00
Product B: Revenue	\$24.00
Variable Cost	\$16.00
Total fixed costs	\$75,000

5) What is the breakeven point, assuming the sales mix consists of three units of Product A and one unit of Product B?

- A) 10,000 units of A and 5,000 units of B
- B) 11,250 units of A and 3,750 units of B
- C) 12,000 units of A and 4,000 units of B
- D) 4,000 units of A and 12,000 units of B

Answer: B

Explanation:

B) N = units of product B; and $3N$ = units of product A;
 $(\$16.00 - \$12.00)3N + (\$24.00 - \$16.00) N - \$75,000 = 0$
 $\$12N + \$8N = \$75,000$
 $\$20N = \$75,000$
 $N = 3,750$ units

Product A = 11,250 units; Product B = 3,750 units

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Analytical skills

6) What is the operating income, assuming actual sales total 25,000 units, and the sales mix is three units of Product A and one unit of Product B?

- A) \$50,000
- B) \$60,000
- C) \$75,000
- D) None of these answers are correct.

Answer: A

Explanation:

A)	<u>Product A</u>	<u>Product B</u>	<u>Total</u>
Sales units	<u>18,750</u>	<u>6,250</u>	<u>25,000</u>
Revenue	\$300,000	\$150,000	\$450,000
Var. costs	<u>225,000</u>	<u>100,000</u>	<u>325,000</u>
CM	<u>\$75,000</u>	<u>\$50,000</u>	\$125,000
Fixed costs			<u>75,000</u>
			<u>\$50,000</u>

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Analytical skills

7) If the sales mix shifts to four units of Product A and one unit of Product B, then the weighted-average contribution margin will:

- A) increase per unit
- B) stay the same
- C) decrease per unit
- D) be indeterminable

Answer: C

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Analytical skills

8) If the sales mix shifts to four units of Product A and one unit of Product B, then the breakeven point will:

- A) increase
- B) stay the same
- C) decrease
- D) be indeterminable

Answer: A

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Analytical skills

9) Assuming a constant mix of 3 units of Small for every 1 unit of Large.

	<u>Small</u>	<u>Large</u>	<u>Total</u>
Sales	\$20	\$30	
VC	14	18	
Total fixed costs			\$48,000

The breakeven point in units would be:

- A) 4,800 units of Small and 1,600 units of Large
- B) 1,200 units of Small and 400 units of Large
- C) 1,600 units of Small and 4,800 units of Large
- D) 400 units of Small and 1,200 units of Large

Answer: A

Explanation:

A)	<u>Small</u>	<u>Large</u>
Sales	\$20	\$30
Variable costs	<u>14</u>	<u>18</u>
Contribution margin	\$6	\$12
Sales mix	$\times 3$	$\times 1$
Contribution margin per mix	<u>\$18</u>	<u>\$12</u>

Total contribution margin per mix = \$18 + \$12 = \$30

Breakeven point in composite units = \$48,000/\$30 = 1,600

Small: $1,600 \times 3 = 4,800$ units

Large: $1,600 \times 1 = 1,600$ units

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Analytical skills

10) In multiproduct situations, when sales mix shifts toward the product with the lowest contribution margin then:

- A) total revenues will increase
- B) breakeven quantity will decrease
- C) total contribution margin will increase
- D) operating income will decrease

Answer: D

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Reflective thinking

11) If a company has a degree of operating leverage of 3.0 and sales increase by 25%, then:

A) total variable costs will increase by 75%

B) total variable costs will not change

C) profit will increase by 30%

D) profit will increase by 75%

Answer: D

Explanation: $D) 3.0 \times 25\% = 75\%$

Diff: 2

Terms: operating leverage

Objective: 7

AACSB: Analytical skills

12) If a company would like to increase its degree of operating leverage it should:

A) increase its inventories relative to its receivables

B) increase its receivables relative to its inventories

C) increase its variable costs relative to its fixed costs

D) increase its fixed costs relative to its variable costs

Answer: D

Diff: 2

Terms: operating leverage

Objective: 7

AACSB: Reflective thinking

13) Passenger-miles are a potential measure of output for the airline industry.

Answer: TRUE

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 7

AACSB: Reflective thinking

14) Pounds of yeast used by a bake shop is a potential measure of output for the bakery industry.

Answer: FALSE

Explanation: Loaves of bread or dozens of doughnuts are examples of outputs; yeast is an input that would be part of the variable cost of the product.

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: 7

AACSB: Analytical skills

15) In multiproduct situations when sales mix shifts toward the product with the lowest contribution margin, the breakeven quantity will decrease.

Answer: FALSE

Explanation: In multiproduct situations when sales mix shifts toward the product with the lowest contribution margin, the breakeven quantity will *increase*.

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Reflective thinking

16) In multiproduct situations when sales mix shifts toward the product with the highest contribution margin, operating income will be higher.

Answer: TRUE

Diff: 3

Terms: sales mix

Objective: 7

AACSB: Reflective thinking

17) To calculate the breakeven point in a multiproduct situation, one must assume that the sales mix of the various products remains constant.

Answer: TRUE

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Ethical reasoning

18) If a company's sales mix is 2 units of product A for every 3 units of product B, and the company sells 3,000 units in total of both products, only 2,000 units of product A will be sold.

Answer: FALSE

Explanation: If a company's sales mix is 2 units of product A for every 3 units of product B, and the company sells 3,000 units in total of both products, 1,200 units of product A will be sold and 1,800 units of product B will be sold.

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Analytical skills

19) Ken's Beer Emporium sells beer and ale in both pint and quart sizes. If Ken's sells twice as many pints as it sells quarts, and sells 2,400 items total, it will sell 800 quarts of ale.

Answer: TRUE

Diff: 2

Terms: sales mix

Objective: 7

AACSB: Analytical skills

20) Karen Hefner, a florist, operates retail stores in several shopping malls. The average selling price of an arrangement is \$30 and the average cost of each sale is \$18. A new mall is opening where Karen wants to locate a store, but the location manager is not sure about the rent method to accept. The mall operator offers the following three options for its retail store rentals:

1. paying a fixed rent of \$15,000 a month, or
2. paying a base rent of \$9,000 plus 10% of revenue received, or
3. paying a base rent of \$4,800 plus 20% of revenue received up to a maximum rent of \$25,000.

Required:

- a. For each option, compute the breakeven sales and the monthly rent paid at break-even.
- b. Beginning at zero sales, show the sales levels at which each option is preferable up to 5,000 units.

Answer:

- a. Option 1 N = Breakeven units

$$\$30N - \$18N - \$15,000 = 0$$

$$\$12N - \$15,000 = 0$$

$$N = \$15,000 / \$12 = 1,250 \text{ units}$$

$$\text{Rent at breakeven} = \$15,000$$

- Option 2 N = Breakeven units

$$\$30N - \$18N - 0.10(\$30N) - \$9,000 = 0$$

$$\$9N - \$9,000 = 0$$

$$N = \$9,000 / \$9 = 1,000 \text{ units}$$

$$\text{Rent at breakeven} = \$9,000 + (0.10 \times \$30 \times 1,000) = \$12,000$$

- Option 3 N = Breakeven units

$$\$30N - \$18N - 0.20(\$30N) - \$4,800 = 0$$

$$\$6N - \$4,800 = 0$$

$$N = \$4,800 / \$6 = 800 \text{ units}$$

$$\text{Rent at breakeven} = \$4,800 + (0.20 \times \$30 \times 800) = \$9,600$$

- b. Option 3 from 0 to 1,400 units for \$4,800 plus \$6 per unit.

Option 2 from 1,401 to 2,000 for \$9,000 plus \$3 per unit.

Option 1 above 2,000 for \$15,000.

Option 1 equals Option 2 when sales are 2,000 and favors Option 1 above 2,000 units.

$$\$15,000 = \$9,000 + 0.10(\$30N); \$6,000 = \$3N; \quad N = 2,000$$

Option 1 equals Option 3 when sales are 1,700 and favors Option 1 above 1,700 units.

$$\$15,000 = \$4,800 + 0.20(\$30N); \$10,200 = \$6N; \quad N = 1,700 \text{ units}$$

Diff: 3

Terms: breakeven point (BEP)

Objective: 2, 7

AACSB: Analytical skills

21) Sprint Manufacturing Company produces two products, X and Y. The following information is presented for both products:

	<u>X</u>	<u>Y</u>
Selling price per unit	\$30	\$20
Variable cost per unit	20	5

Total fixed costs are \$292,500.

Required:

- Calculate the contribution margin for each product.
- Calculate breakeven point in units of both X and Y if the sales mix is 3 units of X for every unit of Y.
- Calculate breakeven volume in total dollars if the sales mix is 2 units of X for every 3 units of Y.

Answer:

- $X: \$30 - \$20 = \$10$
 $Y: \$20 - \$5 = \$15$

- $(3 \times \$10) + (1 \times \$15) = \$45$
 $\$292,500 / \$45 = 6,500 \text{ units}$
 $X: 6,500 \times 3 = 19,500 \text{ units}$
 $Y: 6,500 \times 1 = 6,500 \text{ units}$

- $(2 \times \$10) + (3 \times \$15) = \$65$
 $\$292,500 / \$65 = 4,500 \text{ units}$
 $X: 4,500 \times 2 = 9,000 \times \$30 = \$270,000$
 $Y: 4,500 \times 3 = 13,500 \times \$20 = 270,000$
 Total dollar sales = \$540,000

Diff: 3

Terms: sales mix, breakeven point (BEP), sensitivity analysis

Objective: 2, 7

AACSB: Analytical skills

22) Ballpark Concessions currently sells hot dogs. During a typical month, the stand reports a profit of \$9,000 with sales of \$50,000, fixed costs of \$21,000, and variable costs of \$0.64 per hot dog.

Next year, the company plans to start selling nachos for \$3 per unit. Nachos will have a variable cost of \$0.72 and new equipment and personnel to produce nachos will increase monthly fixed costs by \$8,808. Initial sales of nachos should total 5,000 units. Most of the nacho sales are anticipated to come from current hot dog purchasers, therefore, monthly sales of hot dogs are expected to decline to \$20,000.

After the first year of nacho sales, the company president believes that hot dog sales will increase to \$33,750 a month and nacho sales will increase to 7,500 units a month.

Required:

- Determine the monthly breakeven sales in dollars before adding nachos.
- Determine the monthly breakeven sales during the first year of nachos sales, assuming a constant sales mix of 1 hotdog and 2 units of nachos.

Answer:

a. Contribution margin = Fixed costs + Profit
 $= \$21,000 + \$9,000 = \$30,000$

Variable costs = Sales - Contribution margin
 $= \$50,000 - \$30,000$
 $= \$20,000$

Units sold = $\$20,000 / \$0.64 = 31,250$ units
Selling price = $\$50,000 / 31,250 = \1.60 per unit
Unit Variable costs = $\$20,000 / 31,250 = \0.64
N = Breakeven units

$\$1.60N - \$0.64N - \$21,000 = 0$
 $\$0.96N - \$21,000 = 0$
 $N = \$21,000 / \$0.96 = 21,875$ units

- b. Ratio equal to 1 hot dog to 2 units of nachos.
N = Breakeven number of units of hot dogs
2N = Breakeven number of units of nachos

$\$3(2)N + \$1.60N - \$0.72(2N) - \$0.64N - \$29,808 = 0$
 $\$7.60N - \$2.08N - \$29,808 = 0$
 $N = \$29,808 / \$5.52 = 5,400$ hot dogs

Therefore, 5,400 hot dogs and 10,800 units of nachos need to be sold to break even.

Diff: 3

Terms: breakeven point (BEP), sales mix

Objective: 2, 7

AACSB: Analytical skills

23) Bob's Textile Company sells shirts for men and boys. The average selling price and variable cost for each product are as follows:

	<u>Men's</u>		<u>Boys'</u>
Selling Price	\$28.80	Selling Price	\$24.00
Variable Cost	\$20.40	Variable Cost	\$16.80

Fixed costs are \$38,400.

Required:

- What is the breakeven point in units for each type of shirt, assuming the sales mix is 2:1 in favor of men's shirts?
- What is the operating income, assuming the sales mix is 2:1 in favor of men's shirts, and sales total 9,000 shirts?

Answer:

- $N = \text{breakeven in boys' shirts}$ $2N = \text{breakeven in men's shirts}$

$$24N + \$28.80(2N) - \$16.80N - \$20.40(2N) - \$38,400 = 0$$

$$81.6N - 57.6N - \$38,400 = 0$$

$$24N - \$38,400 = 0$$

$$N = \$38,400 / \$24 = 1,600 \text{ shirts}$$

Therefore, to break even, 1,600 boys' shirts and 3,200 men's shirts need to be sold.

	<u>Boys'</u>	<u>Men's</u>	<u>Total</u>
b. Sales in units	<u>3,000</u>	<u>6,000</u>	<u>9,000</u>
Revenue	\$72,000	\$172,800	\$244,800
Variable costs	<u>50,400</u>	<u>122,400</u>	<u>172,800</u>
Contribution margin	<u>\$21,600</u>	<u>\$50,400</u>	\$72,000
Fixed costs			<u>38,400</u>
Operating income			<u>\$33,600</u>

Diff: 3

Terms: sales mix, breakeven point (BEP)

Objective: 7

AACSB: Analytical skills

24) Mount Carmel Company sells only two products, Product A and Product B.

	Product A	Product B	Total
Selling price	\$40	\$50	
Variable cost per unit	\$24	\$40	
Total fixed costs			\$840,000

Mount Carmel sells two units of Product A for each unit it sells of Product B. Mount Carmel faces a tax rate of 30%.

Required:

- What is the breakeven point in units for each product assuming the sales mix is 2 units of Product A for each unit of Product B?
- What is the breakeven point if Mount Carmel's tax rate is reduced to 25%, assuming the sales mix is 2 units of Product A for each unit of Product B?
- How many units of each product would be sold if Mount Carmel desired an after-tax net income of \$73,500, facing a tax rate of 30%?

Answer:

- a. $N = \text{breakeven in product B}$ $2N = \text{breakeven in product A}$

$$\begin{aligned}
 &(\$40 \times 2N) + (\$50 \times N) - (\$24 \times 2N) - (\$40 \times N) - \$840,000 = 0 \\
 &(\$130 \times N) - (\$88 \times N) - \$840,000 = 0 \\
 &\$42N - \$840,000 = 0 \\
 &N = \$840,000 / \$42 = 20,000
 \end{aligned}$$

Therefore, to break even, 40,000 units of Product A and 20,000 units of Product B need to be sold.

- b. The breakeven point would be the same. At the breakeven point there is no pre-tax income, so the tax rate change is irrelevant in this situation.

- c. $N = \text{number of units of product B}$ $2N = \text{number of units of product A}$

$$\begin{aligned}
 &(\$40 \times 2N) + (\$50 \times N) - (\$24 \times 2N) - (\$40 \times N) - \$840,000 = \\
 &\$73,500 / (1 - .3) \\
 &(\$130 \times N) - (\$88 \times N) - \$840,000 = \$105,000 \\
 &\$42N - \$945,000 = 0 \\
 &N = \$945,000 / \$42 = 22,500
 \end{aligned}$$

Therefore, to meet the profit goal, $2 \times N = 45,000$ units of Product A and $N = 22,500$ units of Product B need to be sold.

Diff: 3

Terms: sales mix, breakeven point (BEP), net income

Objective: 7

AACSB: Analytical skills

25) Atlanta Radio Supply sells only two products, Product X and Product Y.

	Product X	Product Y	Total
Selling price	\$25	\$45	
Variable cost per unit	\$20	\$35	
Total fixed costs			\$350,000

Atlanta Radio Supply sells three units of Product X for each two units it sells of Product Y. Atlanta Radio Supply has a tax rate of 25%.

Required:

- What is the breakeven point in units for each product, assuming the sales mix is 3 units of Product X for each two units of Product Y?
- How many units of each product would be sold if Atlanta Radio Supply desired an after-tax net income of \$210,000, using its tax rate of 25%?

Answer:

- $3N = \text{breakeven in product X}$ $2N = \text{breakeven in product Y}$

$$\begin{aligned}
 &(\$25 - \$20) \times 3N + (\$45 - \$35) \times 2N - \$350,000 = 0 \\
 &15N + 20N - \$350,000 = 0 \\
 &35N - \$350,000 = 0 \\
 &N = \$350,000 / \$35 = 10,000
 \end{aligned}$$

Therefore, to break even, 30,000 (10,000 x 3) units of Product X and 20,000 (10,000 x 2) units of Product Y need to be sold.

- $3N = \text{number of units of product X}$ $2N = \text{number of units of product Y}$

$$\begin{aligned}
 &(\$25 - \$20) \times 3N + (\$45 - \$35) \times 2N - \$350,000 = \$210,000 / (1 - .25) \\
 &15N + 20N - \$350,000 = \$280,000 \\
 &35N - \$350,000 = \$280,000 \\
 &35N - \$630,000 = 0 \\
 &N = \$630,000 / \$35 = 18,000
 \end{aligned}$$

Therefore, to meet the profit goal, $3 \times N = 54,000$ units of Product X and $2 \times N = 36,000$ units of Product Y need to be sold.

Diff: 3

Terms: sales mix, breakeven point (BEP), net income

Objective: 7

AACSB: Analytical skills

26) Pennsylvania Valve Company makes three types of valves: Speedy Flow, Sure Flow, and Fine Flow. Each of the three products has a different contribution margin, and the proportions of the three products sold have remained steady over the years. How could Pennsylvania valve compute a breakeven point given this situation?

Answer: Pennsylvania Valve could consider that it makes a single composite product that represents all three products given the constant sales mix. For example, if the ratio is 3 Speedy, 2 Sure Flow, and 1 Fine Flow, Pennsylvania Valve could calculate a weighted average contribution margin for the composite product based on the contribution margins of the individual products using the relative sales mix as weights. Pennsylvania Valve could then divide the fixed costs by this composite contribution margin to determine how many composite units would be needed to be sold to cover the fixed costs. Then the sales mix could be used to determine how many units of each real product is in each composite units. Thus, if 10,000 composite units were required to breakeven and the sales mix is 3 Speedy, 2 Sure Flow, and 1 Fine Flow, Pennsylvania Valve would need to sell 30,000 units of Speedy, 20,000 units of Sure Flow and 10,000 units of Fine Flow to breakeven.

Diff: 3

Terms: breakeven point (BEP), sales mix

Objective: 7

AACSB: Reflective thinking

Objective 3.A

1) Multiple cost drivers:

A) have only one revenue driver

B) can utilize the simple CVP formula

C) have no unique breakeven point

D) are the result of multiple products

Answer: C

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: A

AACSB: Reflective thinking

2) A nonprofit organization aids the unemployed by supplementing their incomes by \$3,200 annually, while they seek new employment skills. The organization has fixed costs of \$240,000 and the budgeted appropriation for the year totals \$800,000. How many individuals can receive financial assistance this year?

A) 175 people

B) 130 people

C) 100 people

D) 75 people

Answer: A

Explanation: A) $\$800,000 - \$3,200N - \$240,000 = 0$; $\$560,000 = \$3,200N$; $N = 175$ people

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: A

AACSB: Analytical skills

3) Helping Hands is a nonprofit organization that supplies electric fans during the summer for individuals in need. Fixed costs are \$200,000. The fans cost \$20.00 each. The organization has a budgeted appropriation of \$480,000. How many people can receive a fan during the summer?

- A) 12,000 people
- B) 14,000 people
- C) 24,000 people
- D) 34,000 people

Answer: B

Explanation: B) $\$480,000 - \$20N - \$200,000 = 0$; $\$280,000 = \$20N$; $N = 14,000$ people

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: A

AACSB: Analytical skills

4) Mount Carmel Company sells only two products, Product A and Product B.

	Product A	Product B	Total
Selling price	\$40	\$50	
Variable cost per unit	\$24	\$40	
Total fixed costs			\$840,000

Mount Carmel sells two units of Product A for each unit it sells of Product B. Mount Carmel faces a tax rate of 30%. Mount Carmel desires a net after-tax income of \$73,500. The breakeven point in units would be:

- A) 21,750 units of Product A and 43,500 units of Product B
- B) 22,500 units of Product A and 45,000 units of product B
- C) 43,500 units of Product A and 21,750 units of Product B
- D) 45,000 units of Product A and 22,500 units of Product B

Answer: D

Explanation: D) Desired pre-tax net income $\$73,500 / (1.0 - .3) = \$105,000$

Weighted contribution margin $[2 \times (\$40 - \$24)] + [1 \times (\$50 - \$40)] = \$42$

Breakeven point in composite units is $(\$105,000 + \$840,000) / \$42 = 22,500$

22,500 composite units is $(2 \times 22,500) = 45,000$ units of A and

$(1 \times 22,500) = 22,500$ units of B

Diff: 3

Terms: sales mix

Objective: A

AACSB: Analytical skills

5) "Uncertainty" may be defined as:

- A) the possibility that an actual amount will be the same as an expected amount
- B) the possibility that an actual amount will be either higher or lower than the expected amount
- C) the possibility that a budgeted amount will be higher than the estimated amount
- D) the possibility that the budgeted amount will be lower than the estimated amount

Answer: B

Diff: 1

Terms: uncertainty

Objective: A

AACSB: Reflective thinking

6) Events, as distinguished from actions, would include:

- A) personnel policy options
- B) decisions on time schedules
- C) decisions on direct material vendors
- D) a financial recession

Answer: D

Diff: 3

Terms: uncertainty

Objective: A

AACSB: Ethical reasoning

7) Expected monetary value may be defined as:

- A) the probability that each outcome will occur
- B) the probability that each outcome will not occur
- C) the weighted average of the outcomes with the probability of each outcome serving as the weight
- D) the average of all possible outcomes

Answer: C

Diff: 1

Terms: expected monetary value

Objective: A

AACSB: Reflective thinking

8) What would be the expected monetary value for the following data using the probability method?

<u>Probability</u>	<u>Cash Inflows</u>
0.20	\$200,000
0.30	\$160,000
0.15	\$120,000
0.35	\$0

- A) \$40,000
- B) \$188,000
- C) \$106,000
- D) \$60,000

Answer: C

Explanation: C) $0.20(\$200,000) + 0.30(\$160,000) + 0.15(\$120,000) = \$106,000$

Diff: 2

Terms: expected monetary value

Objective: A

AACSB: Analytical skills

9) Lobster Liquidators will make \$500,000 if the fishing season weather is good, \$200,000 if the weather is fair, and would actually lose \$50,000 if the weather is poor during the season. If the weather service gives a 40% probability of good weather, a 25% probability of fair weather, and a 35% probability of poor weather, what is the expected monetary value for Lobster Liquidators?

A) \$500,000

B) \$232,500

C) \$267,500

D) \$200,000

Answer: B

Explanation: B) $0.40(\$500,000) + 0.25(\$200,000) + 0.35(-\$50,000) = \$232,500$

Diff: 2

Terms: expected monetary value

Objective: A

AACSB: Analytical skills

Answer the following questions using the information below:

Patrick Ross has three booth rental options at the county fair where he plans to sell his new product. The booth rental options are:

Option 1: \$1,000 fixed fee, or

Option 2: \$750 fixed fee + 5% of all revenues generated at the fair, or

Option 3: 20% of all revenues generated at the fair.

The product sells for \$37.50 per unit. He is able to purchase the units for \$12.50 each.

10) How many actions and events will a decision table contain?

A) 1 action and 3 events

B) 1 action and 6 events

C) 2 actions and 3 events

D) 3 actions and 6 events

Answer: D

Diff: 2

Terms: decision table

Objective: A

AACSB: Analytical skills

11) Which option should Patrick choose to maximize income assuming there is a 40% probability that 70 units will be sold and a 60% probability that 40 units will be sold?

- A) Option 1
- B) Option 2
- C) Option 3
- D) All options maximize income equally.

Answer: C

Explanation:

C) Expected revenues = $0.4(70 \times \$37.50) + 0.6(40 \times \$37.50) = \$1,950$

Expected CM before options = $0.4(70 \times \$25) + 0.6(40 \times \$25) = \$1,300$

Option 1: $\$1,300 - \$1,000 = \$300$

Option 2: $\$1,300 - \$750 - 0.05(\$1,950) = \452.50

Option 3: $\$1,300 - 0.2(\$1,950) = \$910^*$

* = maximization of income

Diff: 3

Terms: decision table

Objective: A

AACSB: Analytical skills

12) There is no unique breakeven point when there are multiple cost drivers.

Answer: TRUE

Diff: 2

Terms: cost-volume-profit (CVP) analysis

Objective: A

AACSB: Analytical skills

13) When there are multiple cost drivers the simple CVP formula of $Q = (FC + OI)/CMU$ can still be used.

Answer: FALSE

Explanation: When there are multiple cost drivers the simple CVP formula no longer applies.

Diff: 1

Terms: cost-volume-profit (CVP) analysis

Objective: A

AACSB: Reflective thinking

14) An expected value is the weighted average of the outcomes, with the probability of each outcome serving as the weight.

Answer: TRUE

Diff: 2

Terms: expected value

Objective: A

AACSB: Communication

15) Produce Company needs to know the pounds of apples to have on hand each day. Each pound of apples costs \$0.50 and can be sold for \$0.80. Unsold apples are worthless at the end of the day. The following demands were found after studying the last six months' sales:

200 pounds of apples 30% of the time
 300 pounds of apples 40% of the time
 400 pounds of apples 30% of the time

Required:

Determine whether Produce Company should order 200, 300, or 400 pounds of apples.

Answer:

Quantity Ordered	Demand Probability			Expected Value
	<u>200</u>	<u>300</u>	<u>400</u>	
200	\$60	\$60	\$60	\$60.00
300	10	90	90	66.00
400	(40)	40	120	40.00
p	0.30	0.40	0.30	

Demand example: 300 units ordered; but demand is either 300 or 400 units:

$$(\$0.80 \times 300) - (\$0.50 \times 300) = \$90$$

Expected value example:

$$\text{Order 400: } (\$40 \times 0.30) + (\$40 \times 0.40) + (\$120 \times 0.30) = \$40$$

Answer: Should order 300 pounds of apples to maximize profit.

Diff: 3

Terms: expected value

Objective: A

AACSB: Analytical skills

16) Lauren had been a manager of a major hotel chain for 15 years. Due to a hotel owner's illness, Lauren was offered the opportunity to purchase a hotel near a vacation area she had often visited. After obtaining a lawyer and an accountant to assist her, Lauren did an analysis of the business and evaluated several contingencies relating to various scenarios that might occur based on economic and weather season circumstances. Since the expected monetary value of the various scenarios was much higher than the price of the hotel, she decided to purchase the hotel. She resigned her position, obtained a loan, and purchased the hotel. The following year, there was a severe economic downturn and also a very bad weather season that reduced the number of guests and also caused a resulting mold situation in the hotel building that required expensive repair work. Lauren ran short of cash, became emotionally distraught, and eventually had to sell the hotel at a significant loss. Was it a bad decision for her to purchase the hotel instead of keeping her other managerial position? Explain.

Answer: It was not necessarily a bad decision for Lauren to purchase the hotel. Decisions are made based on information that is available at the time of evaluating and making the decision. By definition, the nature of uncertainty rules out any guarantees regarding the specific outcome that will be obtained. There are some cases where a bad outcome is obtained even when a good decision has been made. Although the best protection against a bad outcome is a good decision, you can never be 100% certain of a good outcome.

Diff: 3

Terms: outcome

Objective: A

AACSB: Reflective thinking

Cost Accounting, 14e (Horngren/Datar/Rajan)

Chapter 4 Job Costing

Objective 4.1

1) Job costing information is used:

- A) to develop strategies
- B) to make pricing decisions
- C) for external financial reporting
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: job

Objective: 1

AACSB: Reflective thinking

2) Product costing information is used by managers:

- A) to make decisions and strategy
- B) for planning and control
- C) for cost management
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: job-costing system

Objective: 1

AACSB: Communication

3) A _____ is a grouping of individual indirect cost items.

- A) cost allocation base
- B) cost assignment
- C) cost pool
- D) job-costing system

Answer: C

Diff: 1

Terms: cost pool

Objective: 1

AACSB: Reflective thinking

4) Each indirect-cost pool of a manufacturing firm:

- A) utilizes a separate cost-allocation rate
- B) is a subset of total indirect costs
- C) relates to one cost object
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: cost pool

Objective: 1

AACSB: Reflective thinking

5) Direct costs

A) are anything for which a measurement of costs is desired.

B) are costs related to a particular cost object that can be traced to that cost object in an economically feasible (cost-effective) way

C) focus specifically on the costing needs of the CFO

D) provide all information for management decision needs

Answer: B

Diff: 2

Terms: direct costs of a cost object

Objective: 1

AACSB: Reflective thinking

6) In a costing system:

A) cost tracing allocates indirect costs

B) cost allocation assigns direct costs

C) a cost-allocation base can be either financial or nonfinancial

D) a cost object should be a product and not a department or a geographic territory

Answer: C

Diff: 2

Terms: cost-allocation base

Objective: 1

AACSB: Reflective thinking

7) Assigning direct costs to a cost object is called:

A) cost allocation

B) cost assignment

C) cost pooling

D) cost tracing

Answer: D

Diff: 1

Terms: job-costing system

Objective: 1

AACSB: Reflective thinking

8) _____ is the process of distributing indirect costs to products.

A) Cost allocation

B) Job cost recording

C) Cost pooling

D) Cost tracing

Answer: A

Diff: 1

Terms: cost allocation base

Objective: 1

AACSB: Reflective thinking

9) A _____ links an indirect cost to a cost object.

A) cost-allocation base

B) cost pool

C) cost assignment

D) cost tracing

Answer: A

Diff: 1

Terms: cost allocation base

Objective: 1

AACSB: Reflective thinking

10) Which of the following includes both traced direct costs and allocated indirect costs?

A) cost tracing

B) cost pools

C) cost assignments

D) cost allocations

Answer: C

Diff: 1

Terms: job-costing system

Objective: 1

AACSB: Reflective thinking

11) The cost allocation base

A) is a grouping of individual indirect cost items.

B) are costs related to a particular cost object that cannot be traced to that cost object in an economically feasible way.

C) is anything for which a measurement of costs is desired.

D) is a systematic way to link an indirect cost or group of indirect costs to cost objects.

Answer: D

Diff: 1

Terms: cost allocation base

Objective: 1

AACSB: Reflective thinking

12) Direct costs are allocated to the cost object using a cost-allocation method.

Answer: FALSE

Explanation: Indirect costs are allocated to the cost object using a cost-allocation method.

Diff: 1

Terms: cost-allocation base

Objective: 1

AACSB: Reflective thinking

13) A cost object is anything for which a measurement of costs is desired.

Answer: TRUE

Diff: 1

Terms: direct costs of a cost object, indirect costs of a cost object

Objective: 1

AACSB: Reflective thinking

14) Direct costs of a cost object are costs related to a particular cost object that can be allocated to that cost object in an economically feasible (cost-effective) way.

Answer: FALSE

Explanation: Direct costs of a cost object -- costs related to a particular cost object that can be traced to that cost object in an economically feasible (cost-effective) way.

Diff: 1

Terms: fixed cost, variable cost

Objective: 1

AACSB: Reflective thinking

15) The cost-allocation base is a systematic way to link an indirect cost or group of indirect costs to cost objects.

Answer: TRUE

Diff: 2

Terms: job

Objective: 1

AACSB: Reflective thinking

16) Cost objects may be jobs, products, or customers.

Answer: TRUE

Diff: 1

Terms: job

Objective: 1

AACSB: Reflective thinking

17) The cost driver of an indirect cost is often used as the cost-allocation base.

Answer: TRUE

Diff: 1

Terms: cost-allocation base

Objective: 1

AACSB: Reflective thinking

18) For each item below indicate the source documents that would most likely authorize the journal entry in a job-costing system.

Required:

- a. direct materials purchased
- b. direct materials used
- c. direct manufacturing labor
- d. indirect manufacturing labor
- e. finished goods control
- f. cost of goods sold

Answer:

- a. purchase invoice
- b. materials requisition record
- c. labor time card/record
- d. labor time card
- e. job-cost record
- f. sales invoice

Diff: 2

Terms: job costing system

Objective: 1

AACSB: Analytical skills

19) Give three examples of costs that can be considered indirect for a product and direct for a department.

Answer: (Answers may vary.)

Supervision, engineering, and quality control

Diff: 2

Terms: direct costs, indirect costs

Objective: 1

AACSB: Reflective thinking

Objective 4.2

1) _____ costing is used by a business to price homogeneous products.

- A) Actual
- B) Job
- C) Process
- D) Traditional

Answer: C

Diff: 1

Terms: process costing

Objective: 2

AACSB: Reflective thinking

2) Process costing:

- A) allocates all product costs, including materials and labor
- B) results in different costs for different units produced
- C) is commonly used by general contractors who construct custom-built homes
- D) is used exclusively in manufacturing

Answer: A

Diff: 2

Terms: process costing

Objective: 2

AACSB: Reflective thinking

3) _____ costing is used by a business to price unique products for different jobs.

- A) Actual
- B) Job
- C) Process
- D) Traditional

Answer: B

Diff: 1

Terms: job-costing system

Objective: 2

AACSB: Reflective thinking

4) Job costing:

- A) can only be used in manufacturing
- B) records the flow of costs for each customer
- C) allocates an equal amount of cost to each unit made during a time period
- D) is commonly used when each unit of output is identical

Answer: B

Diff: 2

Terms: job-costing system

Objective: 2

AACSB: Reflective thinking

5) Job-costing may only be used by:

- A) service companies
- B) merchandising companies
- C) manufacturing companies
- D) All of these may use job-costing.

Answer: D

Diff: 2

Terms: job costing system

Objective: 2

AACSB: Reflective thinking

6) Many large companies which have multiple production methods and processes have hybrid costing systems that are:

- A) job-costing
- B) actual costing
- C) process costing
- D) a mix of job-costing and process costing

Answer: D

Diff: 2

Terms: job costing system, process-costing system

Objective: 2

AACSB: Reflective thinking

7) Which of the following companies is most likely to use a process costing system.

- A) a manufacturer of breakfast cereal
- B) a manufacturer of large commercial aircraft
- C) a custom jewelry manufacturer
- D) a law firm

Answer: A

Diff: 1

Terms: process costing

Objective: 2

AACSB: Reflective thinking

8) A company may use job costing to assign costs to different product lines and then use process costing to calculate unit costs within each product line.

Answer: TRUE

Diff: 2

Terms: job-costing system, process-costing system

Objective: 2

AACSB: Analytical skills

9) In each period, job costing divides the total cost of producing an identical or similar product by the total number of units produced to obtain a per-unit cost.

Answer: FALSE

Explanation: This describes process-costing.

Diff: 2

Terms: job-costing system, process-costing system

Objective: 2

AACSB: Reflective thinking

10) Job costing is commonly used to estimate costs in beverage production.

Answer: FALSE

Explanation: Process costing is commonly used to estimate costs in beverage production.

Diff: 1

Terms: job-costing system, process-costing system

Objective: 2

AACSB: Reflective thinking

11) In a job-costing system the cost object is an individual unit, batch, or lot of a distinct product or service.

Answer: TRUE

Diff: 1

Terms: job-costing system

Objective: 2

AACSB: Reflective thinking

12) Normal costing is a method of job costing that allocates an indirect cost based on the actual indirect-cost rate times the actual quantity of the cost-allocation base.

Answer: FALSE

Explanation: Actual costing is a method of job costing that allocates an indirect cost based on the actual indirect-cost rate times the actual quantity of the cost-allocation base.

Diff: 1

Terms: actual costing

Objective: 2

AACSB: Reflective thinking

13) Process costing is used to assign manufacturing costs to unique batches of a product.

Answer: FALSE

Explanation: *Job costing* is used to assign manufacturing costs to unique batches of a product.

Diff: 1

Terms: process-costing system

Objective: 2

AACSB: Reflective thinking

14) Job costing and process costing systems share the same objective of estimating product costs.

Answer: TRUE

Diff: 1

Terms: job-costing system, process-costing system

Objective: 2

AACSB: Reflective thinking

15) While costs are measured for individual jobs in a job cost system, they are measured for individual process stages in a process costing system.

Answer: TRUE

Diff: 1

Terms: process-costing system

Objective: 2

AACSB: Reflective thinking

16) Describe job-costing and process-costing systems. Explain when it would be appropriate to use each.
Answer: Job costing accumulates costs for different jobs required by specific customers. Process costing computes and allocates an equal amount of cost to each product. Job costing is the logical choice when the production process has many distinct products or many heterogeneous jobs, while process costing is typically used when it is not necessary to keep separate cost records for individual jobs and the products are relatively homogeneous.

Diff: 2

Terms: job costing system, process-costing system

Objective: 1, 2

AACSB: Reflective thinking

Objective 4.3

1) Which of the following are reasons for using longer periods, such as a year, to calculate indirect cost rates.

- A) Numerator reason
- B) Denominator reason
- C) Both A and B
- D) Neither A nor B

Answer: C

Diff: 1

Terms: indirect-cost rate

Objective: 3

AACSB: Reflective thinking

2) The actual indirect-cost rate is calculated by

- A) dividing actual total indirect costs by the actual total quantity of the cost-allocation base.
- B) multiplying actual total indirect costs by the actual total quantity of the cost-allocation base.
- C) dividing the actual total quantity of the cost allocation base by actual total indirect costs.
- D) multiplying the actual total quantity of the cost allocation base by actual total indirect costs.

Answer: A

Diff: 1

Terms: indirect-cost rate

Objective: 3

AACSB: Analytical skills

3) Actual costing is a costing system that traces direct costs to a cost object by

- A) using the budgeted direct cost rates times the budgeted quantities of direct-cost inputs.
- B) using the actual direct costs rates times the budgeted quantities of the direct-cost inputs.
- C) using the actual direct cost rates times the actual quantities of the direct-cost inputs.
- D) using the budgeted direct cost rates times the actual quantities of the direct cost inputs.

Answer: C

Diff: 1

Terms: actual costing

Objective: 3

AACSB: Analytical skills

4) An example of a *denominator reason* for calculating annual indirect-cost rates includes:

- A) higher heating bills in the winter
- B) semi-annual insurance payments in March and September
- C) higher levels of output demanded during the fall months
- D) All of these answers are correct.

Answer: C

Diff: 3

Terms: indirect-cost rate

Objective: 3

AACSB: Reflective thinking

5) When calculating indirect cost rates, the longer the time period, the greater the influence of seasonal patterns on the amount of costs.

Answer: FALSE

Explanation: The shorter the time period, the greater the influence of seasonal patterns on the amount of costs.

Diff: 1

Terms: indirect-cost rate

Objective: 3

AACSB: Reflective thinking

6) Actual costing systems are NOT commonly found in practice because actual costs CANNOT be computed in a timely manner.

Answer: TRUE

Diff: 1

Terms: actual costing

Objective: 3

AACSB: Reflective thinking

7) The actual indirect-cost rate is calculated by dividing actual total indirect costs by the actual total quantity of the cost-allocation base.

Answer: TRUE

Diff: 1

Terms: indirect-cost rate

Objective: 3

AACSB: Reflective thinking

Objective 4.4

1) A job that shows low profitability may be the result of:

- A) wasting direct materials
- B) inefficient direct manufacturing labor
- C) underpricing the job
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: job-costing system

Objective: 4

AACSB: Ethical reasoning

2) For a given job the direct costs associated with the job are:

- A) actual overhead
- B) direct material
- C) direct manufacturing labor
- D) Both b and c are correct.

Answer: D

Diff: 2

Terms: direct costs of a cost object

Objective: 4

AACSB: Reflective thinking

3) Place the following steps in the order suggested by the seven steps used to assign costs to individual jobs:

- A. Identify indirect costs
- B. Compute the total cost of the job
- C. Select cost-allocation bases
- D. Compute the indirect cost rate

A) ACDB

B) CADB

C) BACD

D) DCAB

Answer: B

Diff: 2

Terms: job-costing system

Objective: 4

AACSB: Analytical skills

4) The basic source document for direct manufacturing labor is the:

- A) job-cost record
- B) materials-requisition record
- C) labor-time record
- D) All of these answers are correct.

Answer: C

Diff: 1

Terms: job-cost record

Objective: 4

AACSB: Reflective thinking

5) Problems with accurate costing occur when:

- A) incorrect job numbers are recorded on source documents
- B) bar coding is used to record materials used on the job
- C) a computer screen requests an employee number before that employee is able to work on information related to a specific job
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: job-costing system

Objective: 4

AACSB: Communication

- 6) The budgeted indirect-cost rate for each cost pool is computed as
- A) budgeted annual indirect costs divided by budgeted annual quantity of cost allocation base.
 - B) budgeted annual quantity of cost allocation base divided by budgeted annual indirect costs.
 - C) actual annual indirect costs divided by budgeted annual quantity of cost allocation base.
 - D) budgeted annual indirect costs divided by budgeted actual quantity of cost allocation base.

Answer: A

Diff: 3

Terms: indirect-cost rate

Objective: 4

AACSB: Analytical skills

- 7) If indirect-cost rates are calculated monthly, distortions might occur because of:

- A) rental costs paid monthly
- B) property tax payments made in July and December
- C) routine monthly preventive-maintenance costs that benefit future months
- D) Both B and C are correct.

Answer: B

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Analytical skills

- 8) Stewart Company's actual manufacturing overhead is \$2,800,000. Overhead is allocated on the basis of direct labor hours. The direct labor hours were 50,000 for the period. What is the manufacturing overhead rate?

- A) \$47.00
- B) \$56.00
- C) \$75.00
- D) None of the above are correct.

Answer: B

Explanation: B) $2,800,000 / 50,000 = 56.00$

Diff: 2

Terms: actual manufacturing overhead rate

Objective: 4

AACSB: Analytical skills

- 9) O'Reilly Enterprises manufactures digital video equipment. For each unit \$2,950 of direct material is used and there is \$2,000 of direct manufacturing labor at \$20 per hour. Manufacturing overhead is applied at \$35 per direct manufacturing labor hour. Calculate the cost of each unit.

- A) \$4,950
- B) \$9,950
- C) \$8,450
- D) \$11,950

Answer: C

Explanation: C) $2,950 + 2,000 + ((2,000 / 20) * 35)$

Diff: 2

Terms: job costing system

Objective: 4

AACSB: Analytical skills

10) An example of a *numerator reason* for calculating annual indirect-cost rates includes:

- A) fewer production workdays in a month
- B) payment of estimated taxes four times a year
- C) higher snow-removal costs during the winter
- D) Both B and C are correct.

Answer: D

Diff: 3

Terms: indirect-cost rate

Objective: 4

AACSB: Reflective thinking

11) In a job-costing system, a manufacturing firm typically uses an indirect-cost rate to estimate the _____ allocated to a job.

- A) direct materials
- B) direct labor
- C) manufacturing overhead costs
- D) total costs

Answer: C

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Reflective thinking

12) A job-cost sheet details the:

- A) direct materials purchased and paid
- B) direct labor costs incurred
- C) indirect labor costs incurred
- D) actual indirect overhead costs incurred

Answer: B

Diff: 2

Terms: job-cost sheet

Objective: 4

AACSB: Reflective thinking

13) A job-cost record uses information from:

- A) a materials requisition record to record raw material purchases from suppliers
- B) a receiving report that indicates the type and quantity of each item received in an order from a supplier
- C) a labor-time card to record an employee's wage rate and hours spent on a particular job
- D) All of these answers are correct.

Answer: C

Diff: 2

Terms: job-cost record

Objective: 4

AACSB: Reflective thinking

14) Costs that are subject to short-run fluctuations for given jobs are:

- A) actual costs
- B) budgeted direct costs
- C) budgeted indirect costs
- D) normal costs

Answer: A

Diff: 1

Terms: actual costing

Objective: 4

AACSB: Reflective thinking

15) Annual cost rates are preferred over actual cost rates for all of the following reasons EXCEPT:

- A) budgeted costs allow managers to have cost information on a timely basis
- B) budgeted costs may be subject to short-run fluctuations
- C) budgeted indirect-cost rates are known prior to the inception of a new job
- D) budgeted-cost rates can be used to allocate direct or indirect costs

Answer: B

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 4

AACSB: Reflective thinking

16) Fixed costs remain constant at \$400,000 per month. During high-output months variable costs are \$320,000, and during low-output months variable costs are \$80,000. What are the respective high and low indirect-cost rates if budgeted professional labor-hours are 16,000 for high-output months and 4,000 for low-output months?

- A) \$45.00 per hour; \$120.00 per hour
- B) \$45.00 per hour; \$45.00 per hour
- C) \$25.00 per hour; \$20.00 per hour
- D) \$56.20 per hour; \$120.00 per hour

Answer: A

Explanation: A) $\$400,000 / 16,000 = \25.00 $\$400,000 / 4,000 = \100.00

$\$320,000 / 16,000 = \underline{20.00}$ $\$80,000 / 4,000 = \underline{20.00}$

High Month = \$45.00 Low Month = \$120.00

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Analytical skills

17) Managers and accountants collect most of the cost information that goes into their systems through:

- A) an information databank
- B) computer programs
- C) source documents
- D) time surveys

Answer: C

Diff: 1

Terms: source document

Objective: 4

AACSB: Reflective thinking

Answer the following questions using the information below:

For 2010, Jake's Dog Supply Manufacturing uses machine-hours as the only overhead cost-allocation base. The accounting records contain the following information:

	<u>Estimated</u>	<u>Actual</u>
Manufacturing overhead costs	\$200,000	\$240,000
Machine-hours	40,000	50,000

18) Using job costing, the 2010 actual indirect-cost rate is:

- A) \$4.00 per machine-hour
- B) \$4.80 per machine-hour
- C) \$5.00 per machine-hour
- D) \$6.00 per machine-hour

Answer: B

Explanation: B) $\$240,000 / 50,000 \text{ mh} = \4.80

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Analytical skills

19) Using actual costing, the amount of manufacturing overhead costs allocated to jobs during 2010 is:

- A) \$300,000
- B) \$250,000
- C) \$240,000.
- D) \$200,000

Answer: C

Explanation: C) $50,000 \text{ mh} \times \$240,000 / 50,000 \text{ mh allocation rate} = \$240,000$

Diff: 2

Terms: actual costing

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Philadelphia Company manufactures pipes and applies manufacturing overhead costs to production at a budgeted indirect-cost rate of \$15 per direct labor-hour. The following data are obtained from the accounting records for June 2010:

Direct materials	\$140,000
Direct labor (3,500 hours @ \$11/hour)	\$ 38,500
Indirect labor	\$ 10,000
Plant facility rent	\$ 30,000
Depreciation on plant machinery and equipment	\$ 15,000
Sales commissions	\$ 20,000
Administrative expenses	\$ 25,000

20) The actual amount of manufacturing overhead costs incurred in June 2010 totals:

- A) \$278,500
- B) \$100,000
- C) \$55,000
- D) \$40,000

Answer: C

Explanation: C) $\$10,000 + \$30,000 + \$15,000 = \$55,000$

Diff: 2

Terms: job-costing system

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Roiann and Dennett Law Office employs 12 full-time attorneys and 10 paraprofessionals. Direct and indirect costs are applied on a professional labor-hour basis that includes both attorney and paraprofessional hours. Following is information for 20X3:

	<u>Budget</u>	<u>Actual</u>
Indirect costs	\$270,000	\$300,000
Annual salary of each attorney	\$100,000	\$110,000
Annual salary of each paraprofessional	\$ 29,000	\$ 30,000
Total professional labor-hours	50,000 dlh	60,000 dlh

21) What are the *actual* direct-cost rate and the *actual* indirect-cost rate, respectively, per professional labor-hour?

- A) \$27.00; \$4.17
- B) \$29.80; \$5.40
- C) \$32.40; \$5.00
- D) \$27.00; \$5.00

Answer: D

Explanation: D) $[(\$110,000 \times 12) + (\$30,000 \times 10)] / 60,000 = \27.00 actual direct rate

$\$300,000 / 60,000 = \5.00 actual indirect rate

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Analytical skills

22) How much should the client be billed in an *actual* costing system if 200 professional labor-hours are used?

- A) \$5,000
- B) \$6,960
- C) \$7,480
- D) \$6,400

Answer: D

Explanation:

$$\begin{aligned} \text{D) } [(\$110,000 \times 12) + (\$30,000 \times 10)] / 60,000 \times 200 &= \$5,400 \\ + \$300,000 / 60,000 \times 200 &= \$1,000 \\ &= \underline{\$6,400} \end{aligned}$$

Diff: 3

Terms: actual costing

Objective: 4

AACSB: Analytical skills

23) If indirect-cost rates were based on actual short-term usage, periods of lower demand would result in lower costs per unit.

Answer: FALSE

Explanation: If indirect-cost rates were based on actual short-term usage, periods of lower demand would result in higher costs per unit.

Diff: 3

Terms: indirect-cost rate

Objective: 4

AACSB: Analytical skills

24) In job costing, only direct costs are used to determine the cost of a job.

Answer: FALSE

Explanation: Both direct and indirect costs are used to determine the cost of a job.

Diff: 1

Terms: job-costing system

Objective: 4

AACSB: Reflective thinking

25) Indirect manufacturing costs should be allocated equally to each job.

Answer: FALSE

Explanation: Not equally to each job, but according to the use of indirect resources by individual jobs.

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Ethical reasoning

26) Each cost pool may have multiple cost allocation bases.

Answer: FALSE

Explanation: There is only one cost-allocation base for each cost pool.

Diff: 2

Terms: cost pool

Objective: 4

AACSB: Analytical skills

27) Normal costing is a costing system that traces direct costs to a cost object by using the actual direct-cost rates times the actual quantities of the direct-cost inputs.

Answer: TRUE

Diff: 1

Terms: normal costing

Objective: 4

AACSB: Reflective thinking

28) A job-cost record is a source document, but individual items of the job-cost record may also have source documents.

Answer: TRUE

Diff: 2

Terms: source document

Objective: 4

AACSB: Reflective thinking

29) A materials-requisition record is an example of a source document.

Answer: TRUE

Diff: 2

Terms: source document

Objective: 4

AACSB: Reflective thinking

30) The reliability of the job-cost records depends on the reliability of the inputs.

Answer: TRUE

Diff: 1

Terms: job-cost record

Objective: 4

AACSB: Reflective thinking

31) To smooth fluctuating levels of output, separate indirect-cost rates should be calculated for each month.

Answer: FALSE

Explanation: To smooth seasonal costs and fluctuating levels of output, indirect-cost rates should be calculated on an *annual* basis.

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Reflective thinking

32) Grounds-maintenance costs incurred during the summer months will distort indirect-cost rates that are computed monthly.

Answer: TRUE

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Reflective thinking

33) One reason for using longer time periods to calculate indirect-cost rates is seasonal cost fluctuations.

Answer: TRUE

Diff: 2

Terms: indirect-cost rate

Objective: 4

AACSB: Reflective thinking

34) Explain how a budgeted indirect-cost rate is determined.

Answer: Manufacturing overhead cost allocation rates are determined by dividing the cost of the resources committed to the manufacturing overhead activity by the capacity made available by the resources committed to the activity.

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 4

AACSB: Reflective thinking

35) What is the difference between an actual cost system and a normal cost system?

Answer: An actual cost system is one that traces direct costs to a cost object by using the actual direct-cost rates times the actual quantities of direct-cost inputs, and allocates indirect costs based on the actual indirect cost rates times the actual quantities of the cost-allocation bases. A normal cost system is one that traces direct costs to a cost object by using the actual direct-cost rates times the actual quantities of direct-cost inputs, and allocates indirect costs based on the budgeted indirect cost rates times the actual quantities of the cost-allocation bases. Both systems trace direct costs to jobs the same way. An actual cost system traces indirect costs to jobs using actual indirect cost rates, but a normal cost system uses budgeted indirect cost rates to trace indirect costs to jobs.

Diff: 2

Terms: actual costing, normal costing

Objective: 4

AACSB: Analytical skills

Objective 4.5

1) The budgeted indirect-cost rate is calculated:

A) at the beginning of the year

B) during the year

C) at the end of each quarter

D) at the end of the year

Answer: A

Diff: 1

Terms: budgeted indirect-cost rate

Objective: 5

AACSB: Reflective thinking

2) The difference between actual costing and normal costing is:

- A) normal costing uses actual quantities of direct-costs
- B) actual costing uses actual quantities of direct-costs
- C) normal costing uses budgeted indirect-costs
- D) actual costing uses actual quantities of cost-allocation bases

Answer: C

Diff: 1

Terms: actual costing, normal costing

Objective: 5

AACSB: Reflective thinking

3) Which of the following statements about normal costing is true?

- A) Direct costs and indirect costs are traced using an actual rate.
- B) Direct costs and indirect costs are traced using budgeted rates.
- C) Direct costs are traced using a budgeted rate, and indirect costs are allocated using an actual rate.
- D) Direct costs are traced using an actual rate, and indirect costs are allocated using a budgeted rate.

Answer: D

Diff: 2

Terms: normal costing

Objective: 5

AACSB: Reflective thinking

4) When using a normal costing system, manufacturing overhead is allocated using the _____ manufacturing overhead rate and the _____ quantity of the allocation base.

- A) budgeted; actual
- B) budgeted; budgeted
- C) actual; budgeted
- D) actual; actual

Answer: A

Diff: 1

Terms: normal costing

Objective: 5

AACSB: Reflective thinking

5) Which of the following statements about actual costing and normal costing is true?

- A) Manufacturing costs of a job are available earlier under actual costing.
- B) Corrective actions can be implemented sooner under normal costing.
- C) Manufacturing costs are available earlier under normal costing.
- D) Both B and C are correct.

Answer: D

Diff: 1

Terms: actual costing, normal costing

Objective: 5

AACSB: Reflective thinking

Answer the following questions using the information below:

For 2010, Jake's Dog Supply Manufacturing uses machine-hours as the only overhead cost-allocation base. The accounting records contain the following information:

	<u>Estimated</u>	<u>Actual</u>
Manufacturing overhead costs	\$200,000	\$240,000
Machine-hours	40,000	50,000

6) Using job costing, the 2010 budgeted manufacturing overhead rate is:

- A) \$4.00 per machine-hour
- B) \$4.80 per machine-hour
- C) \$5.00 per machine-hour
- D) \$6.00 per machine-hour

Answer: C

Explanation: C) $\$200,000 / 40,000 \text{ mh} = \5

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 5

AACSB: Analytical skills

7) Using normal costing, the amount of manufacturing overhead costs allocated to jobs during 2010 is:

- A) \$300,000
- B) \$250,000
- C) \$240,000
- D) \$200,000

Answer: B

Explanation: B) $50,000 \text{ mh} \times \$200,000 / 40,000 \text{ mh allocation rate} = \$250,000$

Diff: 2

Terms: normal costing

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Rhett Company has two departments, Machining and Assembly. The following estimates are for the coming year:

	<u>Machining</u>	<u>Assembly</u>
Direct manufacturing labor-hours	10,000	50,000
Machine-hours	40,000	20,000
Manufacturing overhead	\$200,000	\$400,000

8) A single indirect-cost rate based on direct manufacturing labor-hours for the entire plant is:

- A) \$ 8 per direct labor-hour
- B) \$10 per direct labor-hour
- C) \$20 per direct labor-hour
- D) None of these answers is correct.

Answer: B

Explanation: B) $\$600,000 / 60,000 \text{ dlh} = \10

Diff: 2

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

9) The budgeted indirect-cost driver rate for the Machining Department based on the number of machine-hours in that department is:

- A) \$5 per machine-hour
- B) \$10 per machine-hour
- C) \$20 per machine-hour
- D) None of these answers is correct.

Answer: A

Explanation: A) $\$200,000 / 40,000 \text{ mh} = \5

Diff: 1

Terms: budgeted indirect-cost rate

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Joni's Kitty Supplies applies manufacturing overhead costs to products at a budgeted indirect-cost rate of \$60 per direct manufacturing labor-hour. A retail outlet has requested a bid on a special order of the Toy Mouse product. Estimates for this order include: Direct materials \$40,000; 500 direct manufacturing labor-hours at \$20 per hour; and a 20% markup rate on total manufacturing costs.

10) Manufacturing overhead cost estimates for this special order total:

- A) \$10,000
- B) \$30,000
- C) \$36,000
- D) None of these answers is correct.

Answer: B

Explanation: B) $\$60 \times 500 \text{ dlh} = \$30,000$

Diff: 1

Terms: normal costing

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Gibson Manufacturing is a small textile manufacturer using machine-hours as the single indirect-cost rate to allocate manufacturing overhead costs to the various jobs contracted during the year. The following estimates are provided for the coming year for the company and for the Winfield High School band jacket job.

	<u>Company</u>	<u>Winfield High School Job</u>
Direct materials	\$40,000	\$1,000
Direct labor	\$10,000	\$200
Manufacturing overhead costs	\$30,000	
Machine-hours	100,000 mh	900 mh

11) For Gibson Manufacturing, what is the annual manufacturing overhead cost-allocation rate?

- A) \$0.50
- B) \$0.80
- C) \$0.30
- D) \$33.33

Answer: C

Explanation: C) $\$30,000 / 100,000 \text{ mh} = \0.30 per mh

Diff: 2

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

12) What amount of manufacturing overhead costs will be allocated to this job?

- A) \$270
- B) \$720
- C) \$450
- D) \$30,000

Answer: A

Explanation: A) $900 \text{ mh} \times \$30,000 / 100,000 \text{ mh} = \270

Diff: 2

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

13) What are the total manufacturing costs of this job?

- A) \$1,200
- B) \$1,470
- C) \$1,650
- D) \$1,920

Answer: B

Explanation: B) $\text{DM } \$1,000 + \text{DML } \$200 + \text{MOH } \$270 = \$1,470$

Diff: 3

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

14) What is the bid price for the Winfield High School job if the company uses a 40% markup of total manufacturing costs?

- A) \$2,310
- B) \$588
- C) \$1,680
- D) \$2,058

Answer: D

Explanation: D) $(\text{DM } \$1,000 + \text{DML } \$200 + \text{MOH } \$270) \times 1.40 = \$2,058$

Diff: 3

Terms: job-costing system

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Apple Valley Corporation uses a job cost system and has two production departments, A and B. Budgeted manufacturing costs for the year are:

	<u>Department A</u>	<u>Department B</u>
Direct materials	\$700,000	\$100,000
Direct manufacturing labor	\$200,000	\$800,000
Manufacturing overhead	\$600,000	\$400,000

The actual material and labor costs charged to Job #432 were as follows:

	<u>Total</u>
Direct materials:	\$25,000
Direct labor:	
Department A	\$ 8,000
Department B	<u>\$12,000</u>
	\$20,000

Apple Valley applies manufacturing overhead costs to jobs on the basis of direct manufacturing labor cost using departmental rates determined at the beginning of the year.

15) For Department A, the manufacturing overhead allocation rate is:

- A) 33%
- B) 66%
- C) 300%
- D) 100%

Answer: C

Explanation: C) $\$600,000 / \$200,000 = 300\%$

Diff: 2

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

16) For Department B, the manufacturing overhead allocation rate is:

- A) 50%
- B) 100%
- C) 200%
- D) 300%

Answer: A

Explanation: A) $\$400,000 / \$800,000 = 50\%$

Diff: 2

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

17) Manufacturing overhead costs allocated to Job #432 total:

A) \$30,000

B) \$12,000

C) \$24,000

D) \$36,000

Answer: A

Explanation: A) $[(\$8,000 \times \$600,000 / \$200,000)] + [\$12,000 \times \$400,000 / \$800,000] = \$30,000$

Diff: 3

Terms: manufacturing overhead allocated

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Roiann and Dennett Law Office employs 12 full-time attorneys and 10 paraprofessionals. Direct and indirect costs are applied on a professional labor-hour basis that includes both attorney and paraprofessional hours. Following is information for 20X3:

	<u>Budget</u>	<u>Actual</u>
Indirect costs	\$270,000	\$300,000
Annual salary of each attorney	\$100,000	\$110,000
Annual salary of each paraprofessional	\$ 29,000	\$ 30,000
Total professional labor-hours	50,000 dlh	60,000 dlh

18) What are the *budgeted* direct-cost rate and the *budgeted* indirect-cost rate, respectively, per professional labor-hour?

A) \$27.00; \$4.17

B) \$29.80; \$5.40

C) \$32.40; \$5.00

D) \$27.00; \$5.00

Answer: B

Explanation:

B) $[(\$100,000 \times 12) + (\$29,000 \times 10)] / 50,000 = \29.80 budgeted direct rate

$\$270,000 / 50,000 = \5.40 budgeted indirect rate

Diff: 2

Terms: indirect-cost rate

Objective: 5

AACSB: Analytical skills

19) How much should a client be billed in a *normal* costing system when 1,000 professional labor-hours are used?

A) \$32,000

B) \$29,800

C) \$35,200

D) \$27,000

Answer: C

Explanation:

$$\begin{array}{rcl} \text{C) } [(\$100,000 \times 12) + (\$29,000 \times 10)] / 50,000 \times 1,000 & = & \$29,800 \\ + \$270,000 / 50,000 \times 1,000 & = & \$5,400 \\ \$29,800 + \$5,400 & = & \underline{\underline{\$35,200}} \end{array}$$

Diff: 3

Terms: normal costing

Objective: 5

AACSB: Analytical skills

20) When a normal costing system is used, clients using proportionately more attorney time than paraprofessional time will:

A) be overbilled for actual resources used

B) be underbilled for actual resources used

C) be billed accurately for actual resources used

D) result in an underallocation of direct costs

Answer: B

Diff: 3

Terms: normal costing

Objective: 5

AACSB: Reflective thinking

21) Companies typically wait for accurate information regarding actual manufacturing overhead costs before pricing a job.

Answer: FALSE

Explanation: Companies typically use allocated manufacturing overhead costs to estimate the costs for pricing a job.

Diff: 2

Terms: normal costing

Objective: 5

AACSB: Ethical reasoning

22) The budgeted indirect cost rate is the budgeted indirect costs divided by budgeted quantity of the cost allocation base.

Answer: TRUE

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 5

AACSB: Reflective thinking

23) Direct costs are traced the same way for actual costing and normal costing.

Answer: TRUE

Diff: 2

Terms: actual costing, normal costing

Objective: 5

AACSB: Reflective thinking

24) Normal costing assigns indirect costs based on an actual indirect-cost rate.

Answer: FALSE

Explanation: Normal costing assigns indirect costs based on a *budgeted* rate.

Diff: 1

Terms: normal costing

Objective: 5

AACSB: Reflective thinking

25) A budgeted indirect-cost rate is computed for each cost pool using budgeted indirect costs and the budgeted quantity of the cost-allocation base.

Answer: TRUE

Diff: 1

Terms: budgeted indirect-cost rate

Objective: 5

AACSB: Reflective thinking

26) For normal costing, even though the budgeted indirect-cost rate is based on estimates, indirect costs are allocated to products based on actual levels of the cost-allocation base.

Answer: TRUE

Diff: 1

Terms: normal costing, budgeted indirect-cost rate, cost-allocation base

Objective: 5

AACSB: Reflective thinking

27) Maddow Manufacturing is a small textile manufacturer using machine-hours as the single indirect-cost rate to allocate manufacturing overhead costs to the various jobs contracted during the year. The following estimates are provided for the coming year for the company and for the Patterson High School Science Olympiad Jacket job.

	<u>Company</u>	<u>Patterson High School Job</u>
Direct materials	\$25,000	\$500
Direct manufacturing labor	\$5,000	\$100
Manufacturing overhead costs	\$20,000	
Machine-hours	50,000 mh	800 mh

Required:

- For Maddow Manufacturing, determine the annual manufacturing overhead cost-allocation rate.
- Determine the amount of manufacturing overhead costs allocated to the Patterson High School job.
- Determine the estimated total manufacturing costs for the Patterson High School job.

Answer:

- Manufacturing overhead cost-allocation rate = \$0.40 per mh
= \$20,000/50,000 mh
- \$320 estimated manufacturing overhead costs = 800 mh × \$0.40 per mh
- | | |
|-------------------------------------|--------------|
| Direct materials | \$500 |
| Direct manufacturing labor | \$100 |
| Manufacturing overhead costs | <u>\$320</u> |
| Estimated total manufacturing costs | <u>\$920</u> |

Diff: 2

Terms: job costing system, manufacturing overhead allocated

Objective: 4, 5

AACSB: Analytical skills

28) Hill Manufacturing uses departmental cost driver rates to apply manufacturing overhead costs to products. Manufacturing overhead costs are applied on the basis of machine-hours in the Machining Department and on the basis of direct labor-hours in the Assembly Department. At the beginning of 20X5, the following estimates were provided for the coming year:

	<u>Machining</u>	<u>Assembly</u>
Direct labor-hours	10,000 dlh	90,000 dlh
Machine-hours	100,000 mh	5,000 mh
Direct labor cost	\$ 80,000	\$720,000
Manufacturing overhead costs	\$250,000	\$360,000

The accounting records of the company show the following data for Job #846:

	<u>Machining</u>	<u>Assembly</u>
Direct labor-hours	50 dlh	120 dlh
Machine-hours	170 mh	10 mh
Direct material cost	\$2,700	\$1,600
Direct labor cost	\$ 400	\$ 900

Required:

- Compute the manufacturing overhead allocation rate for each department.
- Compute the total cost of Job #846.
- Provide possible reasons why Hill Manufacturing uses two different cost allocation rates.

Answer:

- Machining Department cost-allocation rate: $\$2.50 / \text{mh} = \$250,000 / 100,000 \text{ mh}$
Assembly Department cost-allocation rate: $\$4.00 / \text{dlh} = \$360,000 / 90,000 \text{ dlh}$
- Total cost of Job #846 is $\$6,505 = \text{Direct materials } \$4,300 + \text{Direct labor } \$1,300 + \text{Manufacturing overhead costs } \$905 (\text{Machining } \$425 + \text{Assembly } \$480)$.
- Ideally, the cost-allocation base should reflect the factors that cause manufacturing overhead costs to increase. Apparently, Hill regards the use of machines as the principal cause of manufacturing overhead costs (such as depreciation and repairs) in the Machining Department. In contrast, Hill regards direct labor-hours as the principal cause of manufacturing overhead costs (such as indirect labor) in the Assembly Department.

Diff: 2

Terms: job costing system, manufacturing overhead allocated

Objective: 4, 5

AACSB: Analytical skills

Objective 4.6

1) In a normal costing system, the Manufacturing Overhead Control account:

- A) is increased by allocated manufacturing overhead
- B) is credited with amounts transferred to Work-in-Process
- C) is decreased by allocated manufacturing overhead
- D) is debited with actual overhead costs

Answer: D

Diff: 2

Terms: normal costing

Objective: 6

AACSB: Reflective thinking

2) The Materials Control account is increased when:

- A) direct materials are purchased
- B) indirect materials are purchased
- C) materials are requisitioned for production
- D) Both A and B are correct.

Answer: D

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

3) All of the following are true of the Work-in-Process Control account EXCEPT that:

- A) it tracks all direct material purchases
- B) the balance equals the sum of amounts from all in-process individual job-cost records
- C) it is an asset account
- D) it tracks job costs from beginning through completion

Answer: A

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Use of Information Technology

4) All of the following are general ledger accounts EXCEPT:

- A) the Salaries Payable Control account
- B) the Prepaid Insurance Control account
- C) the Accounts Receivable subsidiary account for Ruben Electric
- D) the Advertising Costs account

Answer: C

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

5) All of the following increase (are debited to) the Work-in-Process Control account EXCEPT:

- A) actual plant insurance costs
- B) direct materials
- C) allocated manufacturing overhead costs
- D) direct manufacturing labor

Answer: A

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Use of Information Technology

6) When direct materials are requisitioned the _____ account is increased.

- A) Manufacturing Overhead Control
- B) Work-in-Process Control
- C) Materials Control
- D) Accounts Payable Control

Answer: B

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

7) Payment of the factory rent increases the:

- A) Work-in-Process Control account
- B) Manufacturing Overhead Control account
- C) Both A and B are correct.
- D) None of these answers are correct.

Answer: B

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

8) All of the following are true of plant utility costs EXCEPT:

- A) the source document is the utility bill
- B) the cost increases the Manufacturing Overhead Control account
- C) the cost increases the Work-in-Process Control account
- D) it is an indirect cost

Answer: C

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

9) Actual (rather than allocated) manufacturing overhead costs are included in the:

- A) Work-in-Process Control account
- B) Finished Goods Control account
- C) Manufacturing Overhead Control account
- D) Both A and B are correct.

Answer: C

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

10) The ending balance in the Work-in-Process Control account represents the costs of all jobs that:

- A) have not been completed
- B) have been completed but not sold
- C) have been completed and sold to customers
- D) are reported on the income statement

Answer: A

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Use of Information Technology

11) For externally reported inventory costs, the Work-in-Process Control account is increased (debited) by:

- A) marketing costs
- B) allocated plant utility costs
- C) the purchase costs of direct and indirect materials
- D) customer-service costs

Answer: B

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Use of Information Technology

12) What is the appropriate journal entry if \$100,000 of materials were purchased on account for the month of August?

- | | | |
|-----------------------------------|---------|---------|
| A) Materials Control | 100,000 | |
| Accounts Payable Control | | 100,000 |
| B) Work-in-Process Control | 100,000 | |
| Accounts Payable Control | | 100,000 |
| C) Manufacturing Overhead Control | 100,000 | |
| Accounts Receivable Control | | 100,000 |
| D) Manufacturing Allocated | 100,000 | |
| Accounts Receivable Control | | 100,000 |

Answer: A

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

13) What is the appropriate journal entry if direct materials of \$20,000 and indirect materials of \$3,000 are sent to the manufacturing plant floor?

- | | | |
|-----------------------------------|--------|--------|
| A) Work-in-Process Control | 20,000 | |
| Materials Control | | 20,000 |
| B) Work-in-Process Control | 23,000 | |
| Materials Control | | 23,000 |
| C) Manufacturing Overhead Control | 3,000 | |
| Materials Control | 20,000 | |
| Work-in-Process Control | | 23,000 |
| D) Work-in-Process Control | 20,000 | |
| Manufacturing Overhead Control | 3,000 | |
| Materials Control | | 23,000 |

Answer: D

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

14) All of the following items are debited to Work-in-Process EXCEPT:

- A) allocated manufacturing overhead
- B) completed goods being transferred out of the plant
- C) direct labor consumed
- D) direct materials consumed

Answer: B

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

15) What would be the appropriate journal entry if the following labor wages were incurred in a furniture manufacturing company?

Assembly workers	\$20,000
Janitors	\$10,000

- | | | |
|-----------------------------------|--------|--------|
| A) Work-in-Process Control | 30,000 | |
| Wages Payable Control | | 30,000 |
| B) Work-in-Process Control | 20,000 | |
| Manufacturing Overhead Control | 10,000 | |
| Wages Payable Control | | 30,000 |
| C) Manufacturing Overhead Control | 30,000 | |
| Wages Payable Control | | 30,000 |
| D) Wages Payable Control | 30,000 | |
| Work-in-Process Control | | 30,000 |

Answer: B

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

16) Manufacturing overhead costs incurred for the month are:

Utilities	\$30,000
Depreciation on equipment	\$25,000
Repairs	\$20,000

Which is the correct journal entry assuming utilities and repairs were on account?

- A) Manufacturing Overhead Control 75,000
 Accounts Payable Control 50,000
 Accumulated Depreciation Control 25,000
- B) Manufacturing Overhead Control 75,000
 Accounts Payable Control 75,000
- C) Manufacturing Overhead Control 75,000
 Accumulated Depreciation Control 75,000
- D) Accumulated Depreciation Control 25,000
 Accounts Payable Control 50,000
 Manufacturing Overhead Control 75,000

Answer: A

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

17) Which of the following statements regarding manufacturing overhead allocation is FALSE?

- A) It includes all manufacturing costs that cannot be directly traced to a product or service.
- B) The costs can be grouped in either a single indirect-cost pool or in multiple indirect-cost pools.
- C) Total costs are unknown at the end of the accounting period.
- D) Allocated amounts are debited to Work-in-Process.

Answer: C

Diff: 2

Terms: manufacturing overhead allocated

Objective: 6

AACSB: Reflective thinking

18) When a job is complete:

- A) Work-in-Process Control is debited
- B) Finished Goods Control is credited
- C) the cost of the job is transferred to Manufacturing Overhead Control
- D) actual direct materials, actual direct manufacturing labor, and allocated manufacturing overhead will comprise the total cost of the job

Answer: D

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

19) During an accounting period, job costs are computed on an ongoing basis by the use of:

- A) actual allocation rates
- B) budgeted indirect-cost rates
- C) overallocated indirect-cost rates
- D) underallocated indirect-cost rates

Answer: B

Diff: 1

Terms: budgeted indirect-cost rate

Objective: 6

AACSB: Use of Information Technology

20) The advantage of using normal costing instead of actual costing is:

- A) indirect costs are assigned at the end of the year when they are known
- B) the job cost is more accurate under normal costing
- C) indirect costs are assigned to a job on a timely basis
- D) normal costing provides a higher gross profit margin

Answer: C

Diff: 1

Terms: actual costing, normal costing

Objective: 6

AACSB: Reflective thinking

Answer the following questions using the information below:

Joni's Kitty Supplies applies manufacturing overhead costs to products at a budgeted indirect-cost rate of \$60 per direct manufacturing labor-hour. A retail outlet has requested a bid on a special order of the Toy Mouse product. Estimates for this order include: Direct materials \$40,000; 500 direct manufacturing labor-hours at \$20 per hour; and a 20% markup rate on total manufacturing costs.

21) Estimated total product costs for this special order equal:

- A) \$96,000
- B) \$50,000
- C) \$80,000
- D) None of these answers is correct.

Answer: C

Explanation: C) DM \$40,000 + DML (500 × \$20) + MOH \$30,000 = \$80,000

Diff: 2

Terms: normal costing

Objective: 6

AACSB: Analytical skills

22) The bid price for this special order is:

- A) \$50,000
- B) \$60,000
- C) \$80,000
- D) \$96,000

Answer: D

Explanation: D) $(DU \$40,000 + DML (500 \times \$20) + MOH 30,000) \times 120\% = \$96,000$

Diff: 2

Terms: normal costing

Objective: 6

AACSB: Analytical skills

Answer the following questions using the information below:

Philadelphia Company manufactures pipes and applies manufacturing overhead costs to production at a budgeted indirect-cost rate of \$15 per direct labor-hour. The following data are obtained from the accounting records for June 2010:

Direct materials	\$140,000
Direct labor (3,500 hours @ \$11/hour)	\$ 38,500
Indirect labor	\$ 10,000
Plant facility rent	\$ 30,000
Depreciation on plant machinery and equipment	\$ 15,000
Sales commissions	\$ 20,000
Administrative expenses	\$ 25,000

23) The amount of manufacturing overhead allocated to all jobs during June 2010 totals:

- A) \$38,500
- B) \$52,500
- C) \$55,000
- D) \$100,000

Answer: B

Explanation: B) $3,500 \times \$15 \text{ per dlh} = \$52,500$

Diff: 2

Terms: manufacturing overhead allocated

Objective: 6

AACSB: Analytical skills

24) For June 2010, manufacturing overhead was:

- A) overallocated
- B) underallocated
- C) neither overallocated nor underallocated
- D) indeterminable

Answer: B

Explanation: B) Underallocated: Allocated only \$52,500 ($3,500 \times \15 per dlh) of the \$55,000 actual overhead

Diff: 2

Terms: underallocated indirect costs

Objective: 6

AACSB: Analytical skills

Answer the following questions using the information below:

Bauer Manufacturing uses departmental cost driver rates to allocate manufacturing overhead costs to products. Manufacturing overhead costs are allocated on the basis of machine-hours in the Machining Department and on the basis of direct labor-hours in the Assembly Department. At the beginning of 20X3, the following estimates were provided for the coming year:

	<u>Machining</u>	<u>Assembly</u>
Direct labor-hours	30,000	60,000
Machine-hours	80,000	20,000
Direct labor cost	\$500,000	\$900,000
Manufacturing overhead costs	\$420,000	\$240,000

The accounting records of the company show the following data for Job #316:

	<u>Machining</u>	<u>Assembly</u>
Direct labor-hours	120	70
Machine-hours	60	5
Direct material cost	\$300	\$200
Direct labor cost	\$100	\$400

25) For Bauer Manufacturing, what is the annual manufacturing overhead cost-allocation rate for the Machining Department?

- A) \$4.00
- B) \$4.20
- C) \$4.67
- D) \$5.25

Answer: D

Explanation: D) $\$420,000 / 80,000 \text{ mh} = \5.25 per mh

Diff: 2

Terms: indirect-cost rate

Objective: 6

AACSB: Analytical skills

26) What amount of manufacturing overhead costs will be allocated to Job #316?

- A) \$439
- B) \$502
- C) \$595
- D) \$532

Answer: C

Explanation: C) $(\$420,000 / 80,000 \text{ mh} \times 60 \text{ mh}) + [(\$240,000 / 60,000) \times 70 \text{ dlh}] = \595

Diff: 3

Terms: manufacturing overhead allocated

Objective: 6

AACSB: Analytical skills

27) What are the total manufacturing costs of Job #316?

- A) \$715
- B) \$880
- C) \$1,595
- D) \$1,000

Answer: C

Explanation: C) DM \$500 + DML \$500 + MOH \$595 = \$1,595

Diff: 3

Terms: manufacturing overhead allocated

Objective: 6

AACSB: Analytical skills

Answer the following questions using the information below:

Wayland Manufacturing uses a normal cost system and had the following data available for 2010:

Direct materials purchased on account	\$ 148,000
Direct materials requisitioned	82,000
Direct labor cost incurred	130,000
Factory overhead incurred	146,000
Cost of goods completed	292,000
Cost of goods sold	256,000
Beginning direct materials inventory	26,000
Beginning WIP inventory	64,000
Beginning finished goods inventory	58,000
Overhead application rate, as a percent of direct-labor costs	125 percent

28) The journal entry to record the materials placed into production would include a:

- A) credit to Direct Materials Inventory for \$82,000
- B) debit to Direct Materials Inventory for \$148,000
- C) credit to WIP Inventory for \$82,000
- D) debit to WIP Inventory for \$148,000

Answer: A

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

29) The ending balance of direct materials inventory is:

- A) \$92,000
- B) \$174,000
- C) \$82,000
- D) \$108,000

Answer: A

Explanation: A) $\$26,000 + \$148,000 - \$82,000 = \$92,000$

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

30) The ending balance of work-in-process inventory is:

- A) \$438,500
- B) \$146,500
- C) \$130,000
- D) \$422,000

Answer: B

Explanation: B) $\$64,000 + \$82,000 + \$130,000 + 1.25 (\$130,000) - 292,000 = \$146,500$

Diff: 3

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

31) The ending balance of finished goods inventory is:

- A) \$58,000
- B) \$36,000
- C) \$94,000
- D) \$292,000

Answer: C

Explanation: C) $\$58,000 + \$292,000 - \$256,000 = \$94,000$

Diff: 3

Terms: job-costing system

Objective: 6

AACSB: Analytical skills

Answer the following questions using the information below:

Apple Valley Corporation uses a job cost system and has two production departments, A and B. Budgeted manufacturing costs for the year are:

	<u>Department A</u>	<u>Department B</u>
Direct materials	\$700,000	\$100,000
Direct manufacturing labor	\$200,000	\$800,000
Manufacturing overhead	\$600,000	\$400,000

The actual material and labor costs charged to Job #432 were as follows:

	<u>Total</u>
Direct materials:	\$25,000
Direct labor:	
Department A	\$ 8,000
Department B	<u>\$12,000</u>
	\$20,000

Apple Valley applies manufacturing overhead costs to jobs on the basis of direct manufacturing labor cost using departmental rates determined at the beginning of the year.

32) Manufacturing costs estimated for Job #432 total:

- A) \$55,000
- B) \$65,000
- C) \$70,000
- D) \$75,000

Answer: D

Explanation: D) DM \$25,000 + DML \$20,000 + MOH \$30,000 $[(\$8,000 \times \$600,000 / \$200,000)] + [\$12,000 \times \$400,000 / \$800,000] = \$75,000$

Diff: 3

Terms: manufacturing overhead allocated

Objective: 6

AACSB: Analytical skills

33) Work-in-Process Control will be decreased (credited) for the amount of direct-labor costs incurred.

Answer: FALSE

Explanation: Work-in-Process Control will be increased (debited) for the amount of direct-labor costs incurred.

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

34) The Work-in-Process Control account tracks job costs from the time jobs are started until they are completed.

Answer: TRUE

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

35) Purchases of materials are credited to materials control.

Answer: FALSE

Explanation: Purchases of materials are debited to materials control.

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

36) The Salaries Payable Control account has underlying subsidiary ledgers.

Answer: TRUE

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

37) Indirect materials that are requisitioned increase the Materials Control account.

Answer: FALSE

Explanation: Indirect materials that are requisitioned increase the Manufacturing Overhead Control account.

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

38) In a job-cost system, each indirect-cost pool has its own account in the general ledger.

Answer: TRUE

Diff: 2

Terms: job-costing system, cost pool

Objective: 6

AACSB: Reflective thinking

39) Indirect manufacturing costs are debited to Manufacturing Overhead Control.

Answer: TRUE

Diff: 1

Terms: indirect manufacturing costs

Objective: 6

AACSB: Reflective thinking

40) The Finished Goods Control account consists of actual manufacturing overhead costs rather than allocated manufacturing overhead costs.

Answer: FALSE

Explanation: The Finished Goods Control account consists of *allocated* manufacturing overhead costs rather than actual manufacturing overhead costs.

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

41) The ending balance in Work-in-Process Control represents the total costs of all jobs that have NOT yet been completed.

Answer: TRUE

Diff: 1

Terms: job-costing system

Objective: 6

AACSB: Reflective thinking

42) The product cost reported as inventoriable costs to shareholders may differ from product costs reported for government contracting.

Answer: TRUE

Diff: 1

Terms: product costs, inventoriable costs

Objective: 6

AACSB: Ethical reasoning

43) For external reporting purposes, it is acceptable to allocate marketing costs to individual jobs.

Answer: FALSE

Explanation: Management may choose to allocate marketing costs to individual jobs for internal *pricing, product-mix, and cost-management decisions*.

Diff: 2

Terms: job-costing system

Objective: 6

AACSB: Ethical reasoning

44) Jordan Company has two departments, X and Y. Overhead is applied based on direct labor cost in Department X and machine-hours in Department Y. The following additional information is available:

<u>Budgeted Amounts</u>	<u>Department X</u>	<u>Department Y</u>
Direct labor cost	\$180,000	\$165,000
Factory overhead	\$225,000	\$180,000
Machine-hours	51,000 mh	40,000 mh

<u>Actual data for Job #10</u>	<u>Department X</u>	<u>Department Y</u>
Direct materials requisitioned	\$10,000	\$16,000
Direct labor cost	\$11,000	\$14,000
Machine-hours	5,000 mh	3,000 mh

Required:

- Compute the budgeted factory overhead rate for Department X.
- Compute the budgeted factory overhead rate for Department Y.
- What is the total overhead cost of Job 10?
- If Job 10 consists of 50 units of product, what is the unit cost of this job?

Answer:

- $\$225,000 / \$180,000 = 125\%$
- $\$180,000 / 40,000 \text{ hrs.} = \4.50 per hour
- $(\$11,000 \times 125 \text{ percent}) + (\$4.50 \times 3,000 \text{ hrs.}) = \$27,250$
- $\$10,000 + \$16,000 + \$11,000 + \$14,000 + \$27,250 = \$78,250 / 50 \text{ units} = \$1,565 \text{ per unit}$

Diff: 2

Terms: job costing system

Objective: 4, 6

AACSB: Analytical skills

45) Job-cost records for Boucher Company contained the following data:

	<u>Date</u>	<u>Date</u>	<u>Date</u>	<u>Total Cost</u>
<u>Job No.</u>	<u>Started</u>	<u>Finished</u>	<u>Sold</u>	<u>of Job</u>
220	May 18	June 12	June 20	<u>at June 30</u>
				\$6,000
221	May 20	June 19	June 21	4,000
222	June 7	July 5	July 12	7,000
223	June 10	June 28	July 1	6,500
224	June 19	July 16	July 25	8,000

Required:

- Compute WIP inventory at June 30.
- Compute finished goods inventory at June 30.
- Compute cost of goods sold for June.

Answer:

- $\$7,000 + \$8,000 = \$15,000$
- $\$6,500$
- $\$6,000 + \$4,000 = \$10,000$

Diff: 2

Terms: job costing system

Objective: 4, 6

AACSB: Analytical skills

46) Constanza Company has the following balances as of the year ended December 31, 2010

Direct Materials Inventory	\$30,000	Dr.
WIP Inventory	69,000	Dr.
Finished Goods Inventory	99,000	Dr.
Underapplied Factory Department Overhead	8,000	Dr.
Cost of Goods Sold	149,000	Dr.

Additional information is as follows:

Cost of direct materials purchased during 2010	\$82,000
Cost of direct materials requisitioned in 2010	74,000
Cost of goods completed during 2010	204,000
Factory overhead applied (120% of direct labor)	96,000

Required:

- Compute beginning direct materials inventory.
- Compute beginning WIP inventory.
- Compute beginning finished goods inventory.
- Compute actual factory overhead incurred.

Answer:

- $\text{Beg Inv} + \$82,000 - \$74,000 = \$30,000$. Beg Inv = \$22,000
- $\$96,000 / 120\% = \$80,000$ direct labor costs incurred
 $\$204,000 - \$74,000 - \$80,000 - \$96,000 + \$69,000 = 23,000$
- $\$149,000 - \$204,000 + \$99,000 = \$44,000$
- $\$96,000 + \$8,000 = \$104,000$

Diff: 3

Terms: job costing system

Objective: 4, 6

AACSB: Analytical skills

47) Cowley County Hospital uses a job-costing system for all patients who have surgery. In March, the pre-operating room (PRE-OP) and operating room (OR) had budgeted allocation bases of 4,000 nursing hours and 2,000 nursing hours, respectively. The budgeted nursing overhead charges for each department for the month were \$168,000 and \$132,000, respectively. The hospital floor for surgery patients had budgeted overhead costs of \$1,200,000 and 15,000 nursing hours for the month. For patient Fred Adams, actual hours incurred were eight and four hours, respectively, in the PRE-OP and OR rooms. He was in the hospital for 4 days (96 hours). Other costs related to Adams were:

	PRE-OP	OR	In-room
	<u>Costs</u>	<u>Costs</u>	<u>Costs</u>
Patient medicine	\$ 200	\$ 500	\$2,400
Direct nursing time	\$1,000	\$2,000	\$3,000

The hospital uses a budgeted overhead rate for applying overhead to patient stays.

Required:

What is the total cost of the stay of patient Fred Adams?

Answer:

Nursing overhead rate PRE-OP = \$168,000/4,000 hrs.
= \$42 per hr.

Nursing overhead rate OR = \$132,000/2,000 hrs.
= \$66 per hr.

Overhead rate for surgery floor = \$1,200,000/15,000 hrs.
= \$80 per hr.

Patient Fred Adams:

	<u>PRE-OP</u>	<u>OR</u>	<u>In-room</u>	<u>Totals</u>
Patient medicine	\$ 200	\$ 500	\$2,400	\$3,100
Direct nursing time	1,000	2,000	3,000	6,000
Nursing overhead:				
PRE-OP (\$42 × 8)	336			336
OR (\$66 × 4)		264		264
In-room (\$80 × 96)	0	0	7,680	7,680
Total	<u>\$1,536</u>	<u>\$2,764</u>	<u>\$13,080</u>	<u>\$17,380</u>

Diff: 3

Terms: budgeted indirect-cost rate

Objective: 4, 6

AACSB: Analytical skills

48) The Dougherty Furniture Company manufactures tables. In March, the two production departments had budgeted allocation bases of 4,000 machine-hours in Department 100 and 8,000 direct manufacturing labor-hours in Department 200. The budgeted manufacturing overheads for the month were \$57,500 and \$62,500, respectively. For Job A, the actual costs incurred in the two departments were as follows:

	<u>Department 100</u>	<u>Department 200</u>
Direct materials purchased on account	\$110,000	\$177,500
Direct materials used	32,500	13,500
Direct manufacturing labor	52,500	53,500
Indirect manufacturing labor	11,000	9,000
Indirect materials used	7,500	4,750
Lease on equipment	16,250	3,750
Utilities	1,000	1,250

Job A incurred 800 machine-hours in Department 100 and 300 manufacturing labor-hours in Department 200. The company uses a budgeted overhead rate for applying overhead to production.

Required:

- Determine the budgeted manufacturing overhead rate for each department.
- Prepare the necessary journal entries to summarize the March transactions for Department 100.
- What is the total cost of Job A?

Answer:

- Manufacturing overhead rate Department 100 = $\$57,500 / 4,000 \text{ hours}$
= \$14.375 per machine-hour

Manufacturing overhead rate Department 200 = $\$62,500 / 8,000 \text{ hours}$
= \$7.8125 per labor-hour

- | | | |
|---|---------|---------|
| Materials Control Department 100 | 110,000 | |
| Accounts Payable Control | | 110,000 |
| Work-in-Process Control Department 100 | 32,500 | |
| Manufacturing Overhead Control Department 100 | 7,500 | |
| Materials Control Department 100 | | 40,000 |
| Work-in-Process Control Department 100 | 52,500 | |
| Manufacturing Overhead Control Department 100 | 11,000 | |
| Wages Payable Control | | 63,500 |
| Manufacturing Overhead Control Department 100 | 17,250 | |
| Leaseholds Payable Control | | 16,250 |
| Utilities Payable Control | | 1,000 |
| Work-in-Process Control Dept. 100 ($\$14.375 \times 800 \text{ hrs}$) | 11,500 | |
| Manufacturing Overhead Allocated | | 11,500 |

c. **Job A:**

Direct materials Dept. 100	\$ 32,500
Direct materials Dept. 200	13,500
Direct manufacturing labor Dept. 100	52,500
Direct manufacturing labor Dept. 200	53,500
Manufacturing overhead Dept. 100 (\$14.375 x 800)	11,500
Manufacturing overhead Dept. 200 (\$7.8125 x 300)	<u>2,344</u>
Total	<u>\$165,844</u>

Diff: 3

Terms: budgeted indirect-cost rate

Objective: 6

AACSB: Analytical skills

49) In a job-costing system, explain why it is necessary to apply indirect costs to production through the use of a manufacturing overhead cost allocation rate.

Answer: First, actual manufacturing overhead costs are not known until the end of year. To price and invoice jobs in a timely manner, annual manufacturing overhead costs need to be estimated and allocated to specific jobs during the accounting period. Secondly, manufacturing overhead costs are usually not incurred evenly throughout the year. The use of a manufacturing overhead cost allocation rate evenly distributes manufacturing overhead costs over the entire year.

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 3, 4, 5, 6

AACSB: Reflective thinking

50) Why does the manufacturing overhead control account (debit) need to equal the manufacturing overhead allocated account (credit)?

Answer: If these accounts do not equal, then overhead has either been overallocated or underallocated. Either situation means that the cost of the cost object has not been correctly estimated during the period. Evaluation of profitability will be incorrect depending on the materiality of the difference between the two accounts.

Diff: 2

Terms: manufacturing overhead costs

Objective: 6

AACSB: Analytical skills

51) What are three possible ways to dispose of underallocated or overallocated overhead costs at the end of a fiscal year? Briefly comment on the theoretical correctness or incorrectness of each method.

Answer: One way to dispose of underallocated or overallocated overhead costs at the end of a fiscal year would be to prorate the underallocated or overallocated overhead costs to the work-in-process control account, the finished goods control account, and to the cost of goods sold account based on the relative amounts in each account. This is a theoretically correct method since it is reasonable to believe that the underallocated or overallocated overhead costs should attach themselves to the goods as they are produced. A second way to dispose of the underallocated or overallocated overhead costs at the end of a fiscal year would be to adjust the allocation rate based on the actual amounts and reallocate the overhead to completed jobs. This is also a theoretically correct method. A third way is to clear all underallocated or overallocated overhead to the cost of goods sold account. This is not theoretically valid but it is practical if the amount of underallocated or overallocated overhead is not material.

Diff: 2

Terms: proration, manufacturing overhead applied

Objective: 6

AACSB: Reflective thinking

Objective 4.7

1) The spreading of underallocated or overallocated overhead among ending work-in-process, finished goods, and cost of goods sold is called:

- A) the adjusted allocation rate approach
- B) the proration approach
- C) the write-off of cost of goods sold approach
- D) None of these answers are correct.

Answer: B

Diff: 1

Terms: proration

Objective: 7

AACSB: Reflective thinking

2) The method that restates all overhead entries in the general ledger and subsidiary ledgers using actual cost rates rather than budgeted cost rates is called

- A) the adjusted allocation rate approach
- B) the proration approach
- C) the write-off of cost of goods sold approach
- D) None of these answers are correct.

Answer: A

Diff: 1

Terms: proration

Objective: 7

AACSB: Reflective thinking

3) When the allocated amount of indirect costs are less than the actual amount, indirect costs have been:

- A) overabsorbed
- B) underapplied
- C) underallocated
- D) Both underapplied and underallocated are correct.

Answer: D

Diff: 2

Terms: underallocated indirect costs, underapplied indirect costs

Objective: 7

AACSB: Reflective thinking

4) One reason indirect costs may be overapplied is because:

- A) the actual allocation base quantity exceeds the budgeted quantity
- B) budgeted indirect costs exceed actual indirect costs
- C) requisitioned direct materials exceed budgeted material costs
- D) Both A and B are correct.

Answer: B

Diff: 3

Terms: overapplied indirect costs

Objective: 7

AACSB: Analytical skills

5) The _____ approach adjusts individual job-cost records to account for underallocated or overallocated overhead.

- A) adjusted allocation-rate
- B) proration
- C) write-off to cost of goods sold
- D) Both A and B are correct.

Answer: A

Diff: 1

Terms: adjusted allocation-rate approach

Objective: 7

AACSB: Reflective thinking

6) The adjusted allocation approach yields the benefits of:

- A) timeliness and convenience of normal costing
- B) allocation of of actual manufacturing overhead costs at the end of the year
- C) Both a and b are correct.
- D) Neither a nor b are correct.

Answer: C

Diff: 1

Terms: actual costing, normal costing

Objective: 7

AACSB: Reflective thinking

7) The approach often used when dealing with small amounts of underallocated or overallocated overhead is the _____ approach.

- A) adjusted allocation-rate
- B) proration
- C) write-off to cost of goods sold
- D) Both A and B are correct.

Answer: C

Diff: 1

Terms: overallocated indirect costs, underallocated indirect costs

Objective: 7

AACSB: Reflective thinking

8) The _____ approach carries the underallocated or overallocated amounts to overhead accounts in the following year.

- A) adjusted allocation-rate
- B) proration
- C) write-off to cost of goods sold
- D) None of these answers are correct.

Answer: D

Diff: 2

Terms: overallocated indirect costs, underallocated indirect costs

Objective: 7

AACSB: Reflective thinking

9) A company would use multiple cost-allocation bases:

- A) if managers believed the benefits exceeded the additional costs of that costing system
- B) because there is more than one way to allocate overhead
- C) because this is a simpler approach than using one cost allocation base
- D) if managers believe that using multiple cost-allocation bases is the only acceptable method

Answer: A

Diff: 2

Terms: multiple overhead cost pools

Objective: 7

AACSB: Ethical reasoning

Answer the following questions using the information below:

Because the Abernathy Company used a budgeted indirect-cost rate for its manufacturing operations, the amount allocated (\$200,000) was different from the actual amount incurred (\$225,000).

Ending balances in the relevant accounts are:

Work-in-Process	\$ 10,000
Finished Goods	20,000
Cost of Goods Sold	170,000

10) What is the journal entry used to write off the difference between allocated and actual overhead directly to cost of goods sold?

A) Manufacturing Overhead Allocated	200,000	
Cost of Goods Sold	25,000	
Manufacturing Overhead Control		225,000
B) Manufacturing Overhead Control	200,000	
Cost of Goods Sold	25,000	
Manufacturing Overhead Allocated		225,000
C) Manufacturing Overhead Allocated	200,000	
Work-in-Process Control		30,000
Cost of Goods Sold		170,000
D) Manufacturing Overhead Control	225,000	
Work-in-Process Control		55,000
Cost of Goods Sold		170,000

Answer: A

Diff: 2

Terms: overapplied indirect costs, underapplied indirect costs

Objective: 7

AACSB: Analytical skills

11) What is the journal entry used to write off the difference between allocated and actual overhead using the proration approach?

A) Manufacturing Overhead Allocated	200,000	
Work-in-Process Control	10,000	
Finished Goods Control	20,000	
Manufacturing Overhead Control		230,000
B) Manufacturing Overhead Allocated	225,000	
Work-in-Process Control		1,250
Finished Goods Control		2,500
Cost of Goods Sold		21,250
Manufacturing Overhead Control		200,000
C) Manufacturing Overhead Control	225,000	
Work-in-Process Control		1,250
Finished Goods Control		2,500
Cost of Goods Sold		21,250
Manufacturing Overhead Allocated		200,000
D) Manufacturing Overhead Allocated	200,000	
Work-in-Process Control	1,250	
Finished Goods Control	2,500	
Cost of Goods Sold	21,250	
Manufacturing Overhead Control		225,000

Answer: D

Explanation:

D)

Work-in-process	\$ 10,000	5%	x	\$25,000	=	\$1,250
Finished goods	20,000	10%	x	25,000	=	2,500
Cost of goods sold	<u>170,000</u>	<u>85%</u>	x	25,000	=	<u>21,250</u>
	<u>\$200,000</u>	<u>100%</u>				<u>\$25,000</u>

Diff: 2

Terms: proration

Objective: 7

AACSB: Analytical skills

Answer the following questions using the information below:

Roiann and Dennett Law Office employs 12 full-time attorneys and 10 paraprofessionals. Direct and indirect costs are applied on a professional labor-hour basis that includes both attorney and paraprofessional hours. Following is information for 20X3:

	<u>Budget</u>	<u>Actual</u>
Indirect costs	\$270,000	\$300,000
Annual salary of each attorney	\$100,000	\$110,000
Annual salary of each paraprofessional	\$ 29,000	\$ 30,000
Total professional labor-hours	50,000 dlh	60,000 dlh

12) When using a normal costing system, year-end accounting records will show that *indirect costs* are:

- A) applied improperly
- B) underallocated
- C) overbudgeted
- D) overallocated

Answer: D

Explanation: D) Overallocated: Allocated \$324,000 ($\$270,000 / 50,000 \times 60,000$ dlh) when actual is only \$300,000

Diff: 3

Terms: normal costing

Objective: 7

AACSB: Reflective thinking

13) Overhead costs allocated each month are expected to equal actual overhead costs incurred each month.

Answer: FALSE

Explanation: Seasonal fluctuations and lump-sum payments for items such as property taxes are not expected to be incurred evenly throughout the year.

Diff: 2

Terms: manufacturing overhead allocated

Objective: 7

AACSB: Reflective thinking

14) When actual indirect costs exceed allocated indirect costs, indirect costs have been underapplied.

Answer: TRUE

Diff: 1

Terms: overapplied indirect costs

Objective: 7

AACSB: Analytical skills

15) One reason indirect costs may be underapplied is if actual indirect costs are less than budgeted indirect costs.

Answer: FALSE

Diff: 3

Terms: overapplied indirect costs, underapplied indirect costs

Objective: 7

AACSB: Analytical skills

16) The proration approach to allocating overapplied or underapplied overhead adjusts individual job-cost records.

Answer: FALSE

Explanation: The proration approach to allocating overapplied or underapplied overhead adjusts only general ledger accounts and not subsidiary ledgers or individual job-cost records.

Diff: 2

Terms: proration, overapplied indirect costs, underapplied indirect costs

Objective: 7

AACSB: Analytical skills

17) The overhead accounts are closed or become zero at the end of each year.

Answer: TRUE

Diff: 1

Terms: job-costing system

Objective: 7

AACSB: Reflective thinking

18) Overallocated indirect costs occur when the allocated amount of indirect costs is greater than the amount incurred for that period.

Answer: TRUE

Diff: 2

Terms: underallocated indirect costs

Objective: 7

AACSB: Reflective thinking

19) The actual costs of all individual overhead categories are recorded in the Manufacturing Overhead Control account.

Answer: TRUE

Diff: 1

Terms: job-costing system

Objective: 7

AACSB: Analytical skills

20) Proration is the spreading of underallocated or overallocated overhead among ending work in process, finished goods, and costs of goods sold.

Answer: TRUE

Diff: 1

Terms: proration

Objective: 7

AACSB: Reflective thinking

21) It is inappropriate for service organizations such as public accounting firms to use job costing.

Answer: FALSE

Explanation: Accounting firms, law firms, and other firms in the service industry can use Job costing.

Diff: 1

Terms: job-costing system

Objective: 7

AACSB: Ethical reasoning

22) Pumpkin Plastic Products Company manufactures pipes and applies manufacturing costs to production at a budgeted indirect-cost rate of \$9 per direct labor-hour. The following data are obtained from the accounting records for June 2010:

Direct materials	\$300,000
Direct labor (16,000 hours @ \$11/hour)	\$ 44,000
Indirect labor	\$ 20,000
Plant facility rent	\$ 100,000
Depreciation on plant machinery and equipment	\$ 40,000
Sales commissions	\$ 30,000
Administrative expenses	\$ 40,000

Required:

- What actual amount of manufacturing overhead costs was incurred during June 2010?
- What amount of manufacturing overhead was allocated to all jobs during June 2010?
- For June 2010, was manufacturing overhead underallocated or overallocated? Explain.

Answer:

- $\$20,000 + \$100,000 + \$40,000 = \$160,000$
- $16,000 \times \$9 \text{ per dlh} = \$144,000$
- Underallocated by \$16,000: Only allocated \$144,000 of the \$160,000 of actual overhead

Diff: 2

Terms: manufacturing overhead allocated

Objective: 7

AACSB: Analytical skills

23) Moira Company has just finished its first year of operations and must decide which method to use for adjusting cost of goods sold. Because the company used a budgeted indirect-cost rate for its manufacturing operations, the amount that was allocated (\$435,000) to cost of goods sold was different from the actual amount incurred (\$425,000).

Ending balances in the relevant accounts were:

Work-in-Process	\$ 40,000
Finished Goods	80,000
Cost of Goods Sold	680,000

Required:

a. Prepare a journal entry to write off the difference between allocated and actual overhead directly to Cost of Goods Sold. Be sure your journal entry closes the related overhead accounts.

b. Prepare a journal entry that prorates the write-off of the difference between allocated and actual overhead using ending account balances. Be sure your journal entry closes the related overhead accounts.

Answer:

a.

Manufacturing Overhead Allocated	435,000	
Cost of Goods Sold		10,000
Manufacturing Overhead Control		425,000

b.

Work-in-process	\$ 40,000	5 %	× \$10,000	= \$ 500
Finished goods	80,000	10	× \$10,000	= 1,000
Cost of goods sold	<u>680,000</u>	<u>85</u>	× \$10,000	= 8,500
Total	<u>\$800,000</u>	<u>100</u>	%	

Manufacturing Overhead Allocated	435,000	
Work-in-Process		500
Finished Goods		1,000
Cost of Goods Sold		8,500
Manufacturing Overhead Control		425,000

Diff: 3

Terms: manufacturing overhead allocated

Objective: 7

AACSB: Analytical skills

24) Jacobs Company manufactures refrigerators. The company uses a budgeted indirect-cost rate for its manufacturing operations and during 20X5 allocated \$1,000,000 to work-in-process inventory. Actual overhead incurred was \$1,100,000.

Ending balances in the following accounts are:

Work-in-Process	\$ 100,000
Finished Goods	750,000
Cost of Goods Sold	4,150,000

Required:

- Prepare a journal entry to write off the difference between allocated and actual overhead directly to Cost of Goods Sold. Be sure your journal entry closes the related overhead accounts.
- Prepare a journal entry that prorates the write-off of the difference between allocated and actual overhead using ending account balances. Be sure your journal entry closes the related overhead accounts.

Answer:

- | | | |
|----------------------------------|-----------|-----------|
| Manufacturing Overhead Allocated | 1,000,000 | |
| Cost of Goods Sold | 100,000 | |
| Manufacturing Overhead Control | | 1,100,000 |
- | | | |
|--------------------|--------------------|--|
| Work-in-process | \$100,000 | $2.0\% \times \$100,000 = \$2,000$ |
| Finished goods | 750,000 | $15.0 \times \$100,000 = \$15,000$ |
| Cost of goods sold | <u>4,150,000</u> | $\underline{83.0} \times \$100,000 = \$83,000$ |
| Total | <u>\$5,000,000</u> | <u>100.0%</u> |

Manufacturing Overhead Allocated	1,000,000
Work-in-Process	2,000
Finished Goods	15,000
Cost of Goods Sold	83,000
Manufacturing Overhead Control	1,100,000

Diff: 3

Terms: proration

Objective: 7

AACSB: Analytical skills

25) The following information was gathered for Jasmine Company for the year ended December 31, 2010

	<u>Budgeted</u>	<u>Actual</u>
Direct labor-hours	75,000 dlh	80,000 dlh
Factory overhead	\$600,000	\$625,000

Assume that direct labor-hours are the cost-allocation base.

Required:

- Compute the budgeted factory overhead rate.
- Compute the factory overhead applied.
- Compute the amount of over/underapplied overhead.

Answer:

- $\$600,000 / 75,000 \text{ hrs.} = \8.00 per hour
- $\$8.00 \times 80,000 \text{ hrs.} = \$640,000$
- $\$640,000 - \$625,000 = \$15,000 \text{ overapplied}$

Diff: 2

Terms: overapplied indirect costs, underapplied indirect costs

Objective: 7

AACSB: Analytical skills

26) Isabelle, Inc., uses a budgeted factory overhead rate to apply overhead to production. The following data are available for the year ended December 31, 20X5.

	<u>Budgeted</u>	<u>Actual</u>
Factory overhead	\$675,000	\$716,000
Direct labor costs	\$450,000	\$432,000
Direct labor-hours	12,500 dlh	13,325 dlh

Required:

- Determine the budgeted factory overhead rate based on direct labor-hours.
- What is the applied overhead based on direct labor-hours?
- Is overhead overapplied or underapplied? Explain.

Answer:

- $\$675,000 / 12,500 \text{ hrs.} = \54.00 per hour
- $\$54.00 \times 13,325 \text{ hrs.} = \$719,550$
- $\$716,000 - \$719,550 = \$3,550 \text{ overapplied}$

Diff: 2

Terms: overapplied indirect costs, underapplied indirect costs

Objective: 7

AACSB: Analytical skills

27) Schulz Corporation applies overhead based upon machine-hours. Budgeted factory overhead was \$266,400 and budgeted machine-hours were 18,500. Actual factory overhead was \$287,920 and actual machine-hours were 19,050. Before disposition of under/overapplied overhead, the cost of goods sold was \$560,000 and ending inventories were as follows:

Direct materials	\$ 60,000
WIP	190,000
Finished goods	<u>250,000</u>
Total	<u>\$500,000</u>

Required:

- Determine the budgeted factory overhead rate per machine-hour.
- Compute the over/underapplied overhead.
- Prepare the journal entry to dispose of the variance using the write-off to cost of goods sold approach.
- Prepare the journal entry to dispose of the variance using the proration approach.

Answer:

a. $\$266,400 / 18,500 \text{ hrs.} = \14.40 per hour

b. $\$14.40 \times 19,050 \text{ hours} = \$274,320 - \$287,920 = \$13,600 \text{ underapplied overhead}$

c. Cost of Goods Sold	13,600	
Factory Department Overhead Control		13,600

d. $\$560,000 + \$190,000 + \$250,000 = \$1,000,000$

Cost of Goods Sold:

$$\$560,000 / \$1,000,000 = 56\% \times \$13,600 = \$7,616$$

WIP:

$$\$190,000 / \$1,000,000 = 19\% \times \$13,600 = \$2,584$$

Finished Goods:

$$\$250,000 / \$1,000,000 = 25\% \times \$13,600 = \$3,400$$

Cost of Goods Sold	7,616	
WIP Inventory	2,584	
Finished Goods Inventory	3,400	
Factory Department Overhead Control		13,600

Diff: 3

Terms: overapplied indirect costs, underapplied indirect costs

Objective: 7

AACSB: Analytical skills

28) Sedgwick County Hospital uses an indirect job-costing system for all patients. In June, the budgeted nursing care charges for each department and budgeted allocation bases of nursing days are as follows:

<u>June</u>	<u>Critical Care</u>	<u>Special Care</u>	<u>General Care</u>
Budgeted nursing costs	\$2,480,000	\$1,644,000	\$1,280,400
Budgeted nursing days	5,000	4,000	8,000

Patient Ms. Graves spent six days in critical care and eight days in special care during June. The remainder of the 30-day month was spent in the general care area.

Required:

- Determine the budgeted overhead rate for each department.
- What are the total charges to Ms. Graves if she was in the facility the entire month?

Answer:

- $$\begin{aligned} \text{Overhead rate critical care} &= \$2,480,000 / 5,000 \text{ nursing days} = \$496.00 \text{ per day.} \\ \text{Overhead rate special care} &= \$1,644,000 / 4,000 \text{ nursing days} = \$411.00 \text{ per day} \\ \text{Overhead rate general} &= \$1,280,400 / 8,000 \text{ nursing days} = \$160.05 \text{ per day} \end{aligned}$$

- Ms. Graves:

Critical care	$\$496.00 \times 6 \text{ days} =$	\$2,976.00
Special care	$\$411.00 \times 8 \text{ days} =$	3,288.00
General care	$\$160.05 \times 16 \text{ days} =$	<u>2,560.80</u>
Total overhead charges		<u>\$8,824.80</u>

Diff: 2

Terms: indirect-cost rate

Objective: 7

AACSB: Analytical skills

29) Hammond and Jarrett provide tax consulting for estates and trusts. Their job-costing system has a single direct-cost category (professional labor) and a single indirect-cost pool (research support). The indirect-cost pool contains all the costs except direct personnel costs. All budgeted indirect costs are allocated to individual jobs using actual professional labor-hours.

Required:

- a. Discuss the reasons a consulting firm might use a normal costing system rather than an actual costing system.
- b. What might be some reasons for the firm to change from a one-pool to a multiple-pool allocation concept?

Answer:

a. Budget rates are normally used because actual costs may not be available until some time after a job is completed. Decisions about billing a client for services rendered generally must be made immediately after the job is completed. Also, actual costs may reflect short-run changes in the environment that may distort the billing process. Budgeted costs are affected by weekly or monthly fluctuations and, therefore, offer a stable comparison and assignment of costs throughout the accounting cycle.

b. Having separate professional labor-hour rates assists in assigning the personnel costs to jobs closest to their real values. This helps to maintain different costs for jobs that have the same number of hours but a different mix of professionals doing the job. Seldom is there only one cause-and-effect relationship between a job and the tasks performed on the job; therefore, it may also be a good idea to develop multiple indirect-cost assignments (i.e., one for staff support and others for such items as computer support or general administrative support).

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 7

AACSB: Reflective thinking

Objective 4.8

1) In the service sector:

- A) direct labor costs are always easy to trace to jobs
- B) a budgeted direct-labor cost rate may be used to apply direct labor to jobs
- C) normal costing may not be used
- D) overhead is generally applied using an actual cost-allocation rate

Answer: B

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 8

AACSB: Reflective thinking

2) In the service sector, to achieve timely reporting on the profitability of an engagement, a company will use:

- A) budgeted rates for all direct costs
- B) budgeted rates for indirect costs
- C) actual costing
- D) budgeted rates for some direct costs and indirect costs

Answer: D

Diff: 2

Terms: normal costing, budgeted direct cost rate, budgeted indirect cost rate

Objective: 8

AACSB: Reflective thinking

3) Luke employs 25 professional cleaners. Budgeted costs total \$1,800,000 of which \$1,050,000 is direct costs. Budgeted indirect costs are \$750,000 and actual indirect costs were \$793,800. Budgeted professional labor-hours are 1,000,000 and actual hours were 1,008,000. What is the budgeted direct cost-allocation rate?

- A) \$1.80 per hour
- B) \$1.7857 per hour
- C) \$0.75 per hour
- D) \$1.05 per hour

Answer: D

Explanation: D) $\$1,050,000 / 1,000,000 = \1.05

Diff: 2

Terms: budgeted direct cost rate

Objective: 8

AACSB: Analytical skills

4) The budgeted direct-labor cost rate includes _____ in the calculation.

- A) budgeted total costs in indirect cost pool
- B) budgeted total direct-labor costs in the denominator
- C) budgeted total direct-labor costs in the numerator
- D) budgeted total direct-labor hours in the numerator

Answer: C

Diff: 2

Terms: budgeted direct cost rate

Objective: 8

AACSB: Reflective thinking

5) The law firm of Smith & Jones has a staff of 30 lawyers and administrative staff. Budgeted total costs of the firm total \$4,000,000 of which \$2,500,000 is direct-labor costs. Assuming that the remaining costs are indirect and direct-labor cost is the allocation base, calculate the budgeted indirect cost rate.

- A) 38 of direct-labor cost
- B) 60% of direct-labor cost
- C) 63% of direct-labor cost
- D) 160% of direct-labor cost

Answer: B

Explanation: B) $1,500,000 / 2,500,000$

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 8

AACSB: Analytical skills

Answer the following questions using the information below:

A local accounting firm employs 20 full-time professionals. The budgeted annual compensation per employee is \$40,500. The average chargeable time is 500 hours per client annually. All professional labor costs are included in a single direct-cost category and are allocated to jobs on a per-hour basis.

Other costs are included in a single indirect-cost pool, allocated according to professional labor-hours. Budgeted indirect costs for the year are \$787,500, and the firm expects to have 90 clients during the coming year.

6) What is the budgeted direct labor cost rate per hour?

- A) \$18.00 per hour
- B) \$17.50 per hour
- C) \$4.05 per hour
- D) \$2,000 per hour

Answer: A

Explanation: A) Total direct labor cost = $\$40,500 \times 20 = \$810,000$

Total hours = $500 \times 90 = 45,000$ hours

Direct labor cost rate per hour = $\$810,000 / 45,000 = \18.00 per hour

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 8

AACSB: Analytical skills

7) What is the budgeted indirect-cost rate per hour?

- A) \$1,575.00 per hour
- B) \$78.75 per hour
- C) \$18.00 per hour
- D) \$17.50 per hour

Answer: D

Explanation: D) Indirect-cost rate per hour = $\$787,500 / 500 \times 90 = \17.50 per hour

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 8

AACSB: Analytical skills

- 8) If ten clients are lost and the workforce stays at 20 employees, then the direct labor cost rate per hour:
- A) will remain the same as before
 - B) will increase
 - C) will decrease
 - D) is indeterminable

Answer: B

Explanation:

B) Total direct cost = $\$40,500 \times 30 = \$810,000$

Total hours = $200 \times 80 = 40,000$ hours

Direct cost rate per hour = $\$810,000 / 40,000 = \20.25 per hour

The direct labor cost rate per hour increased from \$18.00 per hour to \$20.25 per hour

Diff: 2

Terms: budgeted indirect-cost rate

Objective: 8

AACSB: Analytical skills

- 9) A company may choose to use budgeted rates to allocate direct labor accounts if direct labor costs are difficult to trace to jobs as they are completed.

Answer: TRUE

Diff: 1

Terms: budgeted indirect-cost rate

Objective: 8

AACSB: Reflective thinking

- 10) In some variations of normal costing, organizations use budgeted rates to assign direct costs as well as indirect costs to jobs.

Answer: TRUE

Diff: 2

Terms: normal costing

Objective: 8

AACSB: Reflective thinking

- 11) At the end of the year, the direct costs traced to jobs using the budgeted rates will equal actual direct costs.

Answer: FALSE

Explanation: The actual rate and budgeted rate are different because they are developed at different times.

Diff: 2

Terms: normal costing

Objective: 8

AACSB: Reflective thinking

12) Modern Electronics manufactures surround sound systems and applies manufacturing costs to production at a budgeted indirect-cost rate of \$22 per direct-labor hour. The following data are obtained from the accounting records for August 20X9:

Direct materials	\$350,000
Direct labor (7,000 hours @ \$15/hour)	\$105,000
Indirect labor	\$ 15,000
Plant lease	\$ 75,000
Depreciation on plant and equipment	\$ 40,000
Marketing expense	\$ 20,000
Plant utilities	\$ 15,000

Required:

- What actual amount of manufacturing overhead cost was incurred during August 20X9?
- What amount of manufacturing overhead was allocated to all jobs during August 20X9?
- For August 20X9, was manufacturing overhead underallocated or overallocated? Explain.

Answer:

- $\$15,000 + \$75,000 + \$40,000 + \$15,000 = \$145,000$
- $7,000 \times \$22 \text{ per dlh} = \$154,000$
- Overallocated: Allocated \$154,000 which is \$9,000 more than actual of \$145,000

Diff: 2

Terms: manufacturing overhead allocated

Objective: 7, 8

AACSB: Analytical skills

13) A local engineering firm is bidding on a design project for a new client. The total budgeted direct-labor costs for the firm are \$400,000. The total budgeted indirect costs are \$600,000. It is estimated that there are 8,000 billable hours in total.

Required:

- What is the budgeted direct-labor cost rate?
- What is the budgeted indirect-cost rate assuming direct-labor cost is the allocation base?
- What should be the engineering firm bid on the project if the direct labor hours are estimated at 300 hours?

Answer:

- $\$400,000 / 8,000 = \$50/\text{hour}$
- $\$600,000 / \$400,000 = 150\%$ of direct labor cost
- $(300 \times 50) + (15,000 \times 1.5) = \$37,500$

Diff: 3

Terms: normal costing

Objective: 8

AACSB: Analytical skills

14) A local CPA employs ten full-time professionals. The budgeted compensation per employee is \$50,000. The maximum billable hours for each client are 400. Clients always receive their full amount of time. All professional labor costs are included in a single direct-cost category and are traced to jobs on a per-hour basis. Any other costs are included in a single indirect-cost pool, allocated according to professional labor-hours. Budgeted indirect costs for the year are \$200,000 and the firm had 20 clients.

Required:

- a. What is the direct-labor-cost rate per hour?
- b. What is the indirect-cost rate per hour?

Answer:

- a.

Total direct cost	= \$50,000 × 10 = \$500,000
Total hours	= 400 × 20 = 8,000
Direct-cost rate per unit	= \$500,000/8,000 = \$62.50 per hour
- b. Indirect-cost rate per unit = \$200,000/8,000 = \$25.00 per hour

Diff: 2

Terms: indirect-cost rate

Objective: 8

AACSB: Analytical skills

Cost Accounting, 14e (Horngren/Datar/Rajan)

Chapter 5 Activity-Based Costing and Activity-Based Management

Objective 5.1

1) If products are different, then for costing purposes:

- A) an ABC costing system will yield more accurate cost numbers
- B) a simple costing system should be used
- C) a single indirect-cost rate should be used
- D) none of the above

Answer: A

Diff: 1

Terms: activity-based costing (ABC)

Objective: 1

AACSB: Reflective thinking

2) Overcosting a particular product may result in:

- A) loss of market share
- B) pricing the product too low
- C) operating efficiencies
- D) understating total product costs

Answer: A

Diff: 2

Terms: product undercosting

Objective: 1

AACSB: Analytical skills

3) Undercosting of a product is most likely to result from:

- A) misallocating direct labor costs
- B) underpricing the product
- C) overcosting another product
- D) overstating total product costs

Answer: C

Diff: 2

Terms: product overcosting

Objective: 1

AACSB: Reflective thinking

4) A company produces three products; if one product is overcosted then:

- A) one product is undercosted
- B) one or two products are undercosted
- C) two products are undercosted
- D) no products are undercosted

Answer: B

Diff: 1

Terms: product-cost cross-subsidization

Objective: 1

AACSB: Ethical reasoning

5) Misleading cost numbers are most likely the result of misallocating:

- A) direct material costs
- B) direct manufacturing labor costs
- C) indirect costs
- D) All of these answers are correct.

Answer: C

Diff: 2

Terms: activity-based costing (ABC)

Objective: 1

AACSB: Reflective thinking

6) An accelerated need for refined cost systems is due to:

- A) global monopolies
- B) rising prices
- C) intense competition
- D) a shift toward increased direct costs

Answer: C

Diff: 2

Terms: activity-based costing (ABC)

Objective: 1

AACSB: Ethical reasoning

7) The use of a single indirect-cost rate is more likely to:

- A) undercost high-volume simple products
- B) undercost low-volume complex products
- C) undercost lower-priced products
- D) Both B and C are correct.

Answer: B

Diff: 2

Terms: product undercosting

Objective: 1

AACSB: Reflective thinking

8) Uniformly assigning the costs of resources to cost objects when those resources are actually used in a nonuniform way is called:

- A) overcosting
- B) undercosting
- C) peanut-butter costing
- D) department costing

Answer: C

Diff: 1

Terms: product-cost cross-subsidization

Objective: 1

AACSB: Reflective thinking

9) A top-selling product might actually result in losses for the company.

Answer: TRUE

Diff: 2

Terms: product undercosting

Objective: 1

AACSB: Analytical skills

10) Companies that overcost products will most likely lose market share.

Answer: TRUE

Diff: 2

Terms: product overcosting

Objective: 1

AACSB: Ethical reasoning

11) If companies increase market share in a given product line because their reported costs are less than their actual costs, they will become more profitable in the long run.

Answer: FALSE

Explanation: The actual costs will increase because of the additional sales and the other product lines (which are subsidizing the undercosting of the growing product line) will suffer. The net result will be the company having a lower operating income than it could have had.

Diff: 2

Terms: product undercosting

Objective: 1

AACSB: Reflective thinking

12) As product diversity and indirect costs increase, it is usually best to switch away from an activity based cost system to a broad averaging system.

Answer: FALSE

Explanation: The potential significant differences in costs relating to the products as well as the magnitude of indirect costs make a more refined costing system more appropriate.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 1

AACSB: Reflective thinking

13) If a company overcosts one of its products, then it will undercost at least one of its other products.

Answer: TRUE

Diff: 2

Terms: product-cost cross-subsidization

Objective: 1

AACSB: Ethical reasoning

14) Explain how a top-selling product may actually result in losses for the company.

Answer: If indirect costs are not properly allocated to the products, a product may appear to cost less than it actually does cost to produce. If the selling price is based on these lower costs, the selling price may actually be lower than the costs needed to produce the product resulting in losses for the company.

Diff: 1

Terms: product-cost cross-subsidization

Objective: 1

AACSB: Reflective thinking

Objective 5.2

1) Refining a cost system includes:

- A) classifying as many costs as indirect costs as is feasible
- B) creating as many cost pools as possible
- C) identifying the activities involved in a process
- D) seeking a lesser level of detail

Answer: C

Diff: 2

Terms: activity

Objective: 2

AACSB: Reflective thinking

2) Greater indirect costs are associated with:

- A) specialized engineering drawings
- B) quality specifications and testing
- C) inventoried materials and material control systems
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: product-cost cross-subsidization

Objective: 2

AACSB: Reflective thinking

3) Design of an ABC system requires:

- A) that the job bid process be redesigned
- B) that a cause-and-effect relationship exists between resource costs and individual activities
- C) an adjustment to product mix
- D) Both B and C are correct.

Answer: B

Diff: 1

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

4) Direct costs plus indirect costs equal total costs.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

5) When refining a costing system, a company should classify as many costs as possible as direct costs.

Answer: TRUE

Diff: 1

Terms: refined costing system

Objective: 2

AACSB: Ethical reasoning

6) In a homogeneous cost pool, all costs have a similar cause-and-effect relationship with the cost-allocation base.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

7) Indirect labor and distribution costs would most likely be in the same activity-cost pool.

Answer: FALSE

Explanation: Indirect labor and distribution costs would *not* be in the same activity-cost pool because their cost drivers are very dissimilar. A cost driver of indirect labor would include direct labor hours, while a cost driver of distribution costs would include, for example, cubic feet of cargo moved.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

8) Direct tracing of costs improves cost accuracy.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

9) A cost-allocation base is a necessary element when using a strategy that will refine a costing system.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

10) What are the factors that are causing many companies to refine their costing systems to obtain more accurate measures of the costs of their products?

Answer: The first cause is increasing product diversity. Companies are producing many more products than they used to, placing strains on more simple, older cost systems. A second cause is the overall increased in indirect costs and the relative decline of direct costs. The indirect nature of these costs requires allocation, and any inaccuracies in allocation of these costs become magnified as these indirect costs increase. A third cause would be advances in information technology that makes complex allocation of indirect costs less burdensome. Finally, increased competition from both national and international competitors has resulted in more pressure to reduce costs, as well as increasing the need for and value of information to support responses to these new threats.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 2

AACSB: Reflective thinking

Objective 5.3

1) ABC systems create:

- A) one large cost pool
- B) homogenous activity-related cost pools
- C) activity-cost pools with a broad focus
- D) activity-cost pools containing many direct costs

Answer: B

Diff: 1

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

2) Logical cost allocation bases include:

- A) cubic feet of packages moved to measure distribution activity
- B) number of setups used to measure setup activity
- C) number of design hours to measure designing activity
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

3) ABC systems:

- A) highlight the different levels of activities
- B) limit cost drivers to units of output
- C) allocate costs based on the overall level of activity
- D) generally undercost complex products

Answer: A

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

4) A single indirect-cost rate may distort product costs because:

- A) there is an assumption that all support activities affect all products
- B) it recognizes specific activities that are required to produce a product
- C) costs are not consistently recorded
- D) it fails to measure the correct amount of total costs

Answer: A

Diff: 2

Terms: product-cost cross-subsidization

Objective: 3

AACSB: Communication

- 5) Traditional cost systems distort product costs because:
- A) they do not know how to identify the appropriate units
 - B) competitive pricing is ignored
 - C) they emphasize financial accounting requirements
 - D) they apply average support costs to each unit of product

Answer: D

Diff: 2

Terms: product-cost cross-subsidization

Objective: 3

AACSB: Reflective thinking

- 6) Which of the following statements about activity-based costing is NOT true?
- A) Activity-based costing is useful for allocating marketing and distribution costs.
 - B) Activity-based costing is more likely to result in major differences from traditional costing systems if the firm manufactures only one product rather than multiple products.
 - C) Activity-based costing seeks to distinguish batch-level, product-sustaining, and facility-sustaining costs, especially when they are not proportionate to one another.
 - D) Activity-based costing differs from traditional costing systems in that products are not cross-subsidized.

Answer: B

Diff: 2

Terms: product-cost cross-subsidization

Objective: 3

AACSB: Reflective thinking

- 7) Activity-based costing (ABC) can eliminate cost distortions because ABC:
- A) develops cost drivers that have a cause-and-effect relationship with the activities performed
 - B) establishes multiple cost pools
 - C) eliminates product variations
 - D) recognizes interactions between different departments in assigning support costs

Answer: A

Diff: 1

Terms: product-cost cross-subsidization

Objective: 3

AACSB: Reflective thinking

- 8) Product lines that produce different variations (models, styles, or colors) often require specialized manufacturing activities that translate into:
- A) fewer indirect costs for each product line
 - B) decisions to drop product variations
 - C) a greater number of direct manufacturing labor cost allocation rates
 - D) greater overhead costs for each product line

Answer: D

Diff: 2

Terms: product-cost cross-subsidization

Objective: 3

AACSB: Reflective thinking

Answer the following questions using the information below:

Mertens Company provides the following ABC costing information:

<u>Activities</u>	<u>Total Costs</u>	<u>Activity-cost drivers</u>
Account inquiry hours	\$200,000	10,000 hours
Account billing lines	\$140,000	4,000,000 lines
Account verification accounts	\$75,000	40,000 accounts
Correspondence letters	<u>\$ 25,000</u>	4,000 letters
Total costs	<u>\$440,000</u>	

The above activities are used by Departments A and B as follows:

	<u>Department A</u>	<u>Department B</u>
Account inquiry hours	2,000 hours	4,000 hours
Account billing lines	400,000 lines	200,000 lines
Account verification accounts	10,000 accounts	8,000 accounts
Correspondence letters	1,000 letters	1,600 letters

9) How much of the account inquiry cost will be assigned to Department A?

- A) \$40,000
- B) \$200,000
- C) \$80,000
- D) None of these answers are correct.

Answer: A

Explanation: A) $(\$200,000 / 10,000) \times 2,000 = \$40,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

10) How much of the account billing cost will be assigned to Department B?

- A) \$14,000
- B) \$140,000
- C) \$7,000
- D) None of these answers are correct.

Answer: C

Explanation: C) $(\$140,000 / 4,000,000) \times 200,000 = \$7,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

11) How much of account verification costs will be assigned to Department A?

A) \$15,000

B) \$18,750

C) \$75,000

D) \$5,000

Answer: B

Explanation: B) $(\$75,000 / 40,000) \times 10,000 = \$18,750$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

12) How much of correspondence costs will be assigned to Department B?

A) \$800

B) \$6,250

C) \$25,000

D) \$10,000

Answer: D

Explanation: D) $(\$25,000 / 4,000) \times 1,600 = \$10,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

13) How much of the total costs will be assigned to Department A?

A) \$79,000

B) \$40,000

C) \$112,000

D) \$440,000

Answer: A

Explanation:

A) $(\$200,000 / 10,000)$	x 2,000	= \$40,000
$(\$140,000 / 4,000,000)$	x 400,000	= \$14,000
$(\$75,000 / 40,000)$	x 10,000	= \$18,750
$(\$25,000 / 4,000)$	x 1,000	= <u>\$6,250</u>
		<u>\$79,000</u>

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

14) How much of the total costs will be assigned to Department B?

- A) \$79,000
- B) \$40,000
- C) \$112,000
- D) \$440,000

Answer: C

Explanation:

C) (\$200,000 / 10,000)	x 4,000	= \$ 80,000
(\$140,000 / 4,000,000)	x 200,000	= \$ 7,000
(\$75,000 / 40,000)	x 8,000	= \$ 15,000
(\$25,000 / 4,000)	x 1,600	= <u>\$ 10,000</u>
		<u>\$112,000</u>

Diff: 3

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

15) Dalrymple Company produces a special spray nozzle. The budgeted indirect total cost of inserting the spray nozzle is \$80,000. The budgeted number of nozzles to be inserted is 40,000. What is the budgeted indirect cost allocation rate for this activity?

- A) \$0.50
- B) \$1.00
- C) \$1.50
- D) \$2.00

Answer: D

Explanation: D) $\$80,000 / 40,000 = \2.00

Diff: 1

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

16) Activity-based costing is most likely to yield benefits for companies with all of the following characteristics EXCEPT:

- A) numerous products that consume different amounts of resources
- B) operations that remain fairly consistent
- C) a highly competitive environment, where cost control is critical
- D) accessible accounting and information systems expertise to maintain the system

Answer: B

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

17) Each of the following statements is true EXCEPT:

- A) traditional product costing systems seek to assign all manufacturing costs to products
- B) ABC product costing systems seek to assign all manufacturing costs to products
- C) traditional product costing systems are more refined than an ABC system
- D) cost distortions occur when a mismatch (incorrect association) occurs between the way indirect costs are incurred and the basis for their assignment to individual products

Answer: C

Diff: 1

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

Answer the following questions using the information below:

Happy Valley Land and Snow Company provides the following ABC costing information:

<u>Activities</u>	<u>Total Costs</u>	<u>Activity-cost drivers</u>
Labor hours	\$320,000	8,000 hours
Gas	\$36,000	6,000 gallons
Invoices	<u>\$40,000</u>	2,500 invoices
Total costs	<u>\$396,000</u>	

The above activities used by their three departments are:

	<u>Lawn Department</u>	<u>Bush Department</u>	<u>Plowing Department</u>
Labor hours	2,500 hours	1,200 hours	4,300 hours
Gas	1,500 gallons	800 gallons	3,700 gallons
Invoices	1,600 invoices	400 invoices	500 invoices

18) How much of the labor cost will be assigned to the Lawn Department?

- A) \$100,000
- B) \$25,600
- C) \$40,000
- D) None of these answers are correct.

Answer: A

Explanation: A) $(\$320,000 / 8,000) \times 2,500 = \$100,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

19) How much of the gas cost will be assigned to the Plowing Department?

A) \$50,000

B) \$22,200

C) \$30,000

D) None of these answers are correct.

Answer: B

Explanation: B) $(\$36,000 / 6,000) \times 3,700 = \$22,200$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

20) How much of invoice cost will be assigned to the Bush Department?

A) \$6,400

B) \$8,000

C) \$25,600

D) \$40,000

Answer: A

Explanation: A) $(\$40,000 / 2,500) \times 400 = \$6,400$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

21) How much of the gas cost will be assigned to the Lawn Department?

A) \$4,800

B) \$20,000

C) \$9,000

D) \$22,200

Answer: C

Explanation: C) $(\$36,000 / 6,000) \times 1,500 = \$9,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

22) How much of the total cost will be assigned to the Plowing Department?

A) \$396,000

B) \$202,200

C) \$134,600

D) \$172,000

Answer: B

Explanation:

B) (\$320,000 / 8,000)	x 4,300	= \$172,000
(\$36,000 / 6,000)	x 3,700	= \$22,200
(\$40,000 / 2,500)	x 500	= <u>\$8,000</u>
		<u>\$202,200</u>

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

23) How much of the total costs will be assigned to the Lawn Department?

A) \$100,000

B) \$49,200

C) \$200,000

D) \$134,600

Answer: D

Explanation:

D) (\$320,000 / 8,000)	x 2,500	= \$100,000
(\$36,000 / 6,000)	x 1,500	= \$9,000
(\$20,000 / 2,500)	x 1,600	= <u>\$25,600</u>
		<u>\$134,600</u>

Diff: 3

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

Gregory Enterprises has identified three cost pools to allocate overhead costs. The following estimates are provided for the coming year:

<u>Cost Pool</u>	<u>Overhead Costs</u>	<u>Cost driver</u>	<u>Activity level</u>
Supervision of direct labor	\$320,000	Direct labor-hours	800,000
Machine maintenance	\$120,000	Machine-hours	960,000
Facility rent	<u>\$200,000</u>	Square feet of area	100,000
Total overhead costs	<u>\$640,000</u>		

The accounting records show the Mossman Job consumed the following resources:

<u>Cost driver</u>	<u>Actual level</u>
Direct labor-hours	200
Machine-hours	1,600
Square feet of area	50

24) If direct labor-hours are considered the only overhead cost driver, what is the single cost driver rate for Gregory Enterprises?

- A) \$0.50 per direct labor-hour
- B) \$0.80 per direct labor-hour
- C) \$0.40 per direct labor-hour
- D) \$1.20 per direct labor-hour

Answer: B

Explanation: B) $\$640,000 / 800,000 = \0.80 per dlh

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

25) Using direct labor-hours as the only overhead cost driver, what is the amount of overhead costs allocated to the Mossman Job?

- A) \$160
- B) \$120
- C) \$240
- D) \$125

Answer: A

Explanation: A) $200 \text{ dlh} \times (\$640,000 / 800,000) = \$160$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

Velshi Printers has contracts to complete weekly supplements required by forty-six customers. For the year 2010, manufacturing overhead cost estimates total \$840,000 for an annual production capacity of 12 million pages.

For 2010 Velshi Printers has decided to evaluate the use of additional cost pools. After analyzing manufacturing overhead costs, it was determined that number of design changes, setups, and inspections are the primary manufacturing overhead cost drivers. The following information was gathered during the analysis:

<u>Cost pool</u>	<u>Manufacturing overhead costs</u>	<u>Activity level</u>
Design changes	\$ 120,000	300 design changes
Setups	640,000	5,000 setups
Inspections	80,000	8,000 inspections
Total manufacturing overhead costs	<u>\$840,000</u>	

During 2010, two customers, Money Managers and Hospital Systems, are expected to use the following printing services:

<u>Activity</u>	<u>Money Managers</u>	<u>Hospital Systems</u>
Pages	60,000	76,000
Design changes	10	0
Setups	20	10
Inspections	30	38

26) What is the cost driver rate if manufacturing overhead costs are considered one large cost pool and are assigned based on 12 million pages of production capacity?

- A) \$0.10 per page
- B) \$0.07 per page
- C) \$0.70 per page
- D) \$0.05 per page

Answer: B

Explanation: B) \$0.07 per page = (\$840,000 / 12,000,000 pages)

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

27) Using pages printed as the only overhead cost driver, what is the manufacturing overhead cost estimate for Money Managers during 2010?

A) \$5,000

B) \$3,500

C) \$4,200

D) \$6,000

Answer: C

Explanation: C) $\$4,200 = [60,000 \text{ pages} \times (\$840,000 / 12,000,000)]$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

Whitman Printing has contracts to complete weekly supplements required by forty-six customers. For the year 20X5, manufacturing overhead cost estimates total \$840,000 for an annual production capacity of 12 million pages.

For 2010 Whitman Printing decided to evaluate the use of additional cost pools. After analyzing manufacturing overhead costs, it was determined that number of design changes, setups, and inspections are the primary manufacturing overhead cost drivers. The following information was gathered during the analysis:

<u>Cost pool</u>	<u>Manufacturing overhead costs</u>	<u>Activity level</u>
Design changes	\$ 120,000	200 design changes
Setups	640,000	4,000 setups
Inspections	80,000	16,000 inspections
Total manufacturing overhead costs	<u>\$840,000</u>	

During 2010, two customers, Money Managers and Hospital Systems, are expected to use the following printing services:

<u>Activity</u>	<u>Money Managers</u>	<u>Hospital Systems</u>
Pages	60,000	76,000
Design changes	10	2
Setups	20	10
Inspections	30	38

28) If manufacturing overhead costs are considered one large cost pool and are assigned based on 12 million pages of production capacity, what is the cost driver rate?

- A) \$0.50 per page
- B) \$0.10 per page
- C) \$0.05 per page
- D) \$0.07 per page

Answer: D

Explanation: D) \$0.07 per page = (\$840,000 / 12,000,000 pages)

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

29) Using the cost driver rate determined in the previous question, what is the manufacturing overhead cost estimate for Hospital Systems during 2010?

- A) Manufacturing overhead costs applied to Hospital Systems total \$4,200.
- B) Manufacturing overhead costs applied to Hospital Systems total \$3,800.
- C) Manufacturing overhead costs applied to Hospital Systems total \$5,320.
- D) Manufacturing overhead costs applied to Hospital Systems total \$7,200.

Answer: C

Explanation: C) $\$5,320 = 76,000 \text{ pages} \times (\$840,000 / 12,000,000 \text{ pages})$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Analytical skills

30) Activity-based costing helps identify various activities that explain why costs are incurred.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Communication

31) An activity-based costing system is necessary for costing services that are similar.

Answer: FALSE

Explanation: An activity-based costing system is only necessary when services are dissimilar and different amounts of resources are used by each service.

Diff: 1

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

32) Traditional systems are likely to overcost complex products with lower production volume.

Answer: FALSE

Explanation: Traditional systems are likely to undercost complex products with lower production volume.

Diff: 2

Terms: product undercosting

Objective: 3

AACSB: Reflective thinking

33) For activity-based cost systems, activity costs are assigned to products in the proportion of the demand they place on activity resources.

Answer: TRUE

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

34) Explain how activity-based costing systems can provide more accurate product costs than traditional cost systems.

Answer: A key reason for assigning indirect costs using an ABC system rather than a traditional system is that ABC cost systems reflect differences required by different processes. Activity-based costing systems provide better product costs when they identify and cost more indirect cost differences among products. Activity-based costing seeks to distinguish batch-level, product-sustaining, and facility-sustaining costs especially when they are not proportionate to one another.

Unit-level drivers in traditional cost systems distort product costs because, effectively, these systems assume that all indirect activities affect all products. Thus, these systems assign each unit of product an average cost that fails to recognize the specific activities that are required to produce that product.

Activity-based costing differs from traditional costing systems in that products are not cross-subsidized by support costs being shared by everyone. Activity-based costing is more likely to result in major differences from traditional costing systems if the firm manufactures multiple products rather than only one product.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 3

AACSB: Reflective thinking

Objective 5.4

1) The most likely example of an output unit-level cost is:

- A) general administrative costs
- B) paying suppliers for orders received
- C) engineering costs
- D) machine depreciation

Answer: D

Diff: 1

Terms: output unit-level costs

Objective: 4

AACSB: Analytical skills

2) The most likely example of a batch-level cost is:

- A) utility costs
- B) machine repairs
- C) product-designing costs
- D) setup costs

Answer: D

Diff: 1

Terms: batch-level costs

Objective: 4

AACSB: Analytical skills

3) Design costs are an example of:

- A) unit-level costs
- B) batch-level costs
- C) product-sustaining costs
- D) facility-sustaining costs

Answer: C

Diff: 1

Terms: product-sustaining costs

Objective: 4

AACSB: Reflective thinking

4) _____ costs support the organization as a whole.

- A) Unit-level
- B) Batch-level
- C) Product-sustaining
- D) Facility-sustaining

Answer: D

Diff: 1

Terms: facility-sustaining costs

Objective: 4

AACSB: Reflective thinking

5) It is usually difficult to find good cause-and-effect relationships between _____ and a cost allocation base.

- A) unit-level costs
- B) batch-level costs
- C) product-sustaining costs
- D) facility-sustaining costs

Answer: D

Diff: 1

Terms: facility-sustaining costs

Objective: 4

AACSB: Reflective thinking

6) To set realistic selling prices:

- A) all costs should be allocated to products
- B) costs should only be allocated when there is a strong cause-and-effect relationship
- C) only unit-level costs and batch-level costs should be allocated
- D) only unit-level costs should be allocated

Answer: A

Diff: 2

Terms: facility-sustaining costs

Objective: 4

AACSB: Reflective thinking

7) Different products consume different proportions of manufacturing overhead costs because of differences in all of the following EXCEPT:

- A) selling prices
- B) customers' customization specifications
- C) setup times
- D) product design

Answer: A

Diff: 1

Terms: product-cost cross-subsidization

Objective: 4

AACSB: Reflective thinking

8) Unit-level cost drivers are most appropriate as an overhead assignment base when:

- A) several complex products are manufactured
- B) only one product is manufactured
- C) direct labor costs are low
- D) factories produce a varied mix of products

Answer: B

Diff: 2

Terms: output unit-level costs

Objective: 4

AACSB: Reflective thinking

9) With traditional costing systems, products manufactured in small batches and in small annual volumes may be _____ because batch-related and product-sustaining costs are assigned using unit-related drivers.

- A) overcosted
- B) fairly costed
- C) undercosted
- D) ignored

Answer: C

Diff: 2

Terms: output unit-level costs, batch-level costs

Objective: 4

AACSB: Ethical reasoning

Answer the following questions using the information below:

Products S5 and CP8 each are assigned \$100.00 in indirect costs by a traditional costing system. An activity analysis revealed that although production requirements are identical, S5 requires 45 minutes less setup time than CP8.

10) According to an ABC system, CP8 is _____ under the traditional system.

- A) undercosted
- B) overcosted
- C) fairly costed
- D) accurately costed

Answer: A

Diff: 2

Terms: product undercosting

Objective: 4

AACSB: Reflective thinking

11) According to an ABC system, S5 uses a disproportionately:

- A) smaller amount of unit-level costs
- B) larger amount of unit-level costs
- C) smaller amount of batch-level costs
- D) larger amount of batch-level costs

Answer: C

Diff: 2

Terms: product overcosting

Objective: 4

AACSB: Reflective thinking

12) Unit-level measures can distort product costing because the demand for overhead resources may be driven by batch-level or product-sustaining activities.

Answer: TRUE

Diff: 2

Terms: output unit-level costs, batch-level costs, product-sustaining costs

Objective: 4

AACSB: Reflective thinking

13) Output unit-level costs CANNOT be determined unless you know how many units are in a given batch.

Answer: FALSE

Explanation: Output unit-level costs are the costs of the activities performed on each individual unit whereas batch-level costs are the costs of activities related to a group of units.

Diff: 2

Terms: output unit-level costs, batch-level costs, product-sustaining costs

Objective: 4

AACSB: Reflective thinking

14) Using multiple unit-level cost drivers generally constitutes an effective activity-based cost system.
Answer: FALSE

Explanation: In addition to unit-level cost drivers, an effective activity-based cost system usually uses batch-level, product-sustaining, and facility-sustaining cost drivers.

Diff: 2

Terms: output unit-level costs

Objective: 4

AACSB: Reflective thinking

15) Misleading cost numbers are larger when unit-level assignments and the alternative activity-cost-driver assignments are proportionately dissimilar to each other.

Answer: TRUE

Diff: 2

Terms: output unit-level costs

Objective: 4

AACSB: Communication

16) Explain how traditional cost systems, using a single unit-level cost rate, may distort product costs.

Answer: Unit-level measures can distort product costing because the demand for indirect activities may be driven by batch-level, product-sustaining, customer-sustaining, or facility-sustaining activities. Cost distortions are larger when the traditional systems' unit-level cost drivers and the alternative activity-cost drivers differ proportionately more from each other. Traditional systems are likely to undercost products with lower production volumes (relatively fewer units of production) and overcost products with higher production volumes (relatively greater units of production).

Diff: 2

Terms: output unit-level costs, product overcosting, product undercosting

Objective: 4

AACSB: Reflective thinking

17) What are the four parts of the cost hierarchy. Briefly explain each part, and contrast this cost hierarchy to the fixed-variable dichotomy?

Answer: The four parts of the cost hierarchy are output unit-level costs, batch-level costs, product (or service) sustaining costs, and facility sustaining costs. Output unit-level costs are costs of activities performed on each individual unit of a product or service. Batch-level costs are the costs of activities related to a group of units of products or services rather than to each individual unit of product or service. Product (or service) sustaining costs are the costs of activities undertaken to support individual products or services regardless of the number of units or batches in which the products are produced. Facility-sustaining costs are the costs of activities that cannot be traced to individual products or services but support the organization as a whole. When compared to the fixed-variable dichotomy, which considers only units of output as a cost driver, the four part cost hierarchy provides opportunity to model many different cost drivers. For example, batch-level costs and product (or service) sustaining costs are driven by the number of batches of a product and the number of different products. Neither of these class of cost drivers are able to be considered in a simple fixed-variable dichotomy.

Diff: 2

Terms: cost hierarchy

Objective: 4

AACSB: Reflective thinking

Objective 5.5

1) Put the following ABC implementation steps in order:

- A Compute the allocation rates.
- B Compute the total cost of the products.
- C Identify the products that are the cost objects.
- D Select the cost allocation bases.

A) DACB

B) DBCA

C) BADC

D) CDAB

Answer: D

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

2) ABC systems identify _____ costs used by products.

A) all

B) short-term fixed

C) short-term variable

D) long-term fixed

Answer: A

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

3) The focus of ABC systems is on:

A) long-term decisions

B) short-term decisions

C) make-or-buy decisions

D) special-pricing decisions

Answer: A

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

4) When designing a costing system, it is easiest to:

A) calculate total costs first and then per-unit cost

B) calculate per-unit costs first and then total costs

C) calculate long-term costs first and then short-term costs

D) calculate short-term costs first and then long-term costs

Answer: A

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

5) ABC assumes all costs are _____ because over the long run management can adjust the amount of resources employed.

- A) fixed
- B) variable
- C) committed
- D) nondiscretionary

Answer: B

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

6) A manufacturing firm produces multiple families of products requiring various combinations of different types of parts. Of the following, the most appropriate cost driver for assigning materials handling costs to the various products is:

- A) direct labor hours
- B) number of units produced
- C) number of parts used
- D) number of suppliers involved

Answer: C

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

Answer the following questions using the information below:

Fey Corporation manufactures two models of office chairs, a standard and a deluxe model. The following activity and cost information has been compiled:

<u>Product</u>	<u>Number of Setups</u>	<u>Number of Components</u>	<u>Number of Direct Labor Hours</u>
Standard	22	8	375
Deluxe	28	12	225

Overhead costs \$40,000 \$80,000

7) Assume a traditional costing system applies the \$120,000 of overhead costs based on direct labor hours. What is the total amount of overhead costs assigned to the standard model?

- A) \$49,600
- B) \$70,400
- C) \$75,000
- D) \$45,000

Answer: C

Explanation: C) $[\$120,000 / (375 + 225)] \times 375 = \$75,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

8) Assume a traditional costing system applies the \$120,000 of overhead costs based on direct labor hours. What is the total amount of overhead costs assigned to the deluxe model?

A) \$49,600

B) \$70,400

C) \$75,000

D) \$45,000

Answer: D

Explanation: D) $[\$120,000 / (375 + 225)] \times 225 = \$45,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

9) Number of setups and number of components are identified as activity-cost drivers for overhead.

Assuming an activity-based costing system is used, what is the total amount of overhead costs assigned to the standard model?

A) \$49,600

B) \$70,400

C) \$75,000

D) \$45,000

Answer: A

Explanation: A) Setups: $\$40,000 / (22 + 28) = \800

Components: $\$80,000 / (8 + 12) = \$4,000$

$(\$800 \times 22) + (\$4,000 \times 8) = \$49,600$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

10) Number of setups and number of components are identified as activity-cost drivers for overhead.

Assuming an activity-based costing system is used, what is the total amount of overhead costs assigned to the deluxe model?

A) \$49,600

B) \$70,400

C) \$75,000

D) \$45,000

Answer: B

Explanation: B) $[\$40,000 / (22 + 28) \times 28] + [\$80,000 / (8 + 12) \times 12] = \$70,400$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Racer X Corporation manufactures two models of motorized go-carts, a standard and a deluxe model. The following activity and cost information has been compiled:

<u>Product</u>	<u>Number of Setups</u>	<u>Number of Components</u>	<u>Number of Direct Labor Hours</u>
Standard	15	10	750
Deluxe	35	15	500

Overhead costs	\$15,000	\$25,000
----------------	----------	----------

11) Assume a traditional costing system applies the \$40,000 of overhead costs based on direct labor hours. What is the total amount of overhead cost assigned to the standard model?

A) \$16,000

B) \$24,000

C) \$25,000

D) \$15,000

Answer: B

Explanation: B) $[\$40,000 / (750 + 500)] \times 750 = \$24,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

12) Assume a traditional costing system applies the \$40,000 of overhead costs based on direct labor hours. What is the total amount of overhead cost assigned to the deluxe model?

A) \$16,000

B) \$24,000

C) \$25,000

D) \$15,000

Answer: A

Explanation: A) $[\$40,000 / (750 + 500)] \times 500 = \$16,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

13) Number of setups and number of components are identified as activity-cost drivers for overhead. Assuming an activity-based costing system is used, what is the total amount of overhead cost assigned to the standard model?

- A) \$25,500
- B) \$15,000
- C) \$14,500
- D) \$24,000

Answer: C

Explanation: C) Setups: $15,000 / (15 + 35) = \$300$

Components: $\$25,000 / (10 + 15) = \$1,000$

$(\$300 \times 15) + (\$1,000 \times 10) = \$14,500$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

14) Number of setups and number of components are identified as activity-cost drivers for overhead. Assuming an activity-based costing system is used, what is the total amount of overhead cost assigned to the deluxe model?

- A) \$25,500
- B) \$25,000
- C) \$24,000
- D) \$12,500

Answer: A

Explanation: A) Setups: $\$15,000 / (15 + 35) = \300

Components: $\$25,000 / (10 + 15) = \$1,000$

$(\$300 \times 35) + (\$1,000 \times 15) = \$25,500$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Tiger Pride produces two product lines: T-shirts and Sweatshirts. Product profitability is analyzed as follows:

	<u>T-SHIRTS</u>	<u>SWEATSHIRTS</u>
Production and sales volume	60,000 units	35,000 units
Selling price	\$16.00	\$29.00
Direct material	\$ 2.00	\$ 5.00
Direct labor	\$ 4.50	\$ 7.20
Manufacturing overhead	<u>\$ 2.00</u>	<u>\$ 3.00</u>
Gross profit	\$ 7.50	\$13.80
Selling and administrative	<u>\$ 4.00</u>	<u>\$ 7.00</u>
Operating profit	<u>\$ 3.50</u>	<u>\$ 6.80</u>

What is projected operating income if direct materials costs of T-Shirts increase to \$4.00 per unit and direct labor costs of Sweatshirts increase to \$8.20 per unit.

15) Under the revised ABC system, the activity-cost driver rate for the supervision activity is:

- A) \$2.58
- B) \$2.40
- C) \$2.24
- D) \$1.16

Answer: D

Explanation: $D) \$100,920 / (45,000 \text{ dlh} + 42,000 \text{ dlh}) = \1.16 per dlh

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

16) Under the revised ABC system, supervision costs allocated to Sweatshirts will be:

- A) \$48,720
- B) \$100,800
- C) \$100,920
- D) None of these answers are correct.

Answer: A

Explanation: $A) \$100,920 / (45,000 \text{ dlh} + 42,000 \text{ dlh}) = \$1.16 \text{ per dlh} \times 42,000 \text{ dlh} = \$48,720$

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

17) Under the revised ABC system, total overhead costs allocated to Sweatshirts will be:

A) \$ 48,720

B) \$ 76,720

C) \$224,920

D) None of these answers are correct.

Answer: B

Explanation: B) $\$124,000 / (60,000 \text{ inspections} + 17,500 \text{ inspections}) = \$1.60 \text{ per inspection} \times 17,500 = \$28,000 \text{ plus}$

$\$100,920 / (45,000 \text{ dlh} + 42,000 \text{ dlh}) = \$1.16 \text{ per dlh} \times 42,000 \text{ dlh} = \$48,720;$

$\$28,000 + \$48,720 = \$76,720$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

18) Under the revised ABC system, overhead costs per unit for the Sweatshirts will be:

A) \$1.39 per unit

B) \$1.60 per unit

C) \$2.19 per unit

D) \$2.47 per unit

Answer: C

Explanation: C) $\$76,720 / 35,000 \text{ sweatshirts} = \2.19

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

19) Using an ABC system, next year's estimates show manufacturing overhead costs will total \$228,300 for 52,000 T-shirts. If all other T-shirt costs and sales prices remain the same, the profitability that can be expected is:

A) \$5.41 per t-shirt

B) \$4.39 per t-shirt

C) \$1.11 per t-shirt

D) (\$0.81) per t-shirt

Answer: C

Explanation: C) $[52,000 (\$16 - \$2.00 - \$4.50 - \$4.00)] - \$228,300 = \$57,700 / 52,000 = \$1.11$

Diff: 3

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Mayan Potters manufactures two sizes of ceramic paperweights, regular and jumbo. The following information applies to their expectations for the planning period:

<u>Cost Pool</u>	<u>Overhead Costs</u>	<u>Activity-cost driver</u>
Materials handling	\$ 45,000	90,000 orders
Machine maintenance	\$300,000	15,000 maintenance hours
Setups	\$270,000	45,000 setups
Inspections	<u>\$105,000</u>	21,000 inspections
Total support costs	<u>\$720,000</u>	

Production Estimates

Production units:

Regular	= 8,000,000 units
Jumbo	= 16,000,000 units
Machine-hours	= 200,000 mh
Labor-hours	= 400,000 dlh

Mayan Potters uses an ABC system and assigns overhead costs based on the overhead activity information provided above.

20) The activity-cost driver for the materials handling activity is:

- A) orders
- B) maintenance hours
- C) production units
- D) setups

Answer: A

Diff: 1

Terms: activity

Objective: 5

AACSB: Reflective thinking

21) The materials handling activity-cost driver rate is:

- A) \$2.00
- B) \$20.00
- C) \$0.50
- D) \$5.00

Answer: C

Explanation: C) $\$45,000 / 90,000 \text{ orders} = \0.50 per order

Diff: 1

Terms: activity

Objective: 5

AACSB: Analytical skills

22) The inspections activity-cost driver rate is:

- A) \$0.50
- B) \$2.00
- C) \$20.00
- D) \$5.00

Answer: D

Explanation: D) $\$105,000 / 21,000 \text{ inspections} = \$5.00 \text{ per inspection}$

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

23) During October, Mayan produced 700,000 regular ceramic paperweights and Mayan's production manager counted 2,000 orders; 1,000 maintenance-hours; 2,000 setups; and 2,000 inspections for the regular product line. For October, Mayan's controller assigned _____ indirect costs to the regular product line.

- A) \$43,000
- B) \$25,000
- C) \$34,000
- D) None of these answers are correct.

Answer: A

Explanation: A) $[(\$45,000 / 90,000) \times 2,000] + [(\$300,000 / 15,000) \times 1,000] + [(\$270,000 / 45,000) \times 2,000] + [(\$105,000 / 21,000) \times 2,000] = \$43,000$

Diff: 3

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Nichols, Inc., manufactures remote controls. Currently the company uses a plant-wide rate for allocating manufacturing overhead. The plant manager believes it is time to refine the method of cost allocation and has the accounting department identify the primary production activities and their cost drivers:

<u>Activities</u>	<u>Cost driver</u>	<u>Allocation Rate</u>
Material handling	Number of parts	\$2 per part
Assembly	Labor hours	\$20 per hour
Inspection	Time at inspection station	\$3 per minute

The current traditional cost method allocates overhead based on direct manufacturing labor hours using a rate of \$200 per labor hour.

24) What are the indirect manufacturing costs per remote control assuming the traditional method is used and a batch of 500 remote controls are produced? The batch requires 1,000 parts, 10 direct manufacturing labor hours, and 15 minutes of inspection time.

- A) \$2,000.00 per remote control
- B) \$0.25 per remote control
- C) \$2.00 per remote control
- D) \$4.00 per remote control

Answer: D

Explanation: D) $10 \text{ hours} \times \$200 = \$2,000 \text{ per batch} / 500 \text{ units per batch} = \4.00 per unit

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

25) What are the indirect manufacturing costs per remote control assuming an activity-based-costing method is used and a batch of 50 remote controls are produced? The batch requires 100 parts, 6 direct manufacturing labor hours, and 2.5 minutes of inspection time.

- A) \$4.00 per remote control
- B) \$6.55 per remote control
- C) \$24.00 per remote control
- D) \$327.50 per remote control

Answer: B

Explanation: B) $(\$2 \times 100) + (\$20 \times 6) + (\$3 \times 2.5) = \$327.50 \text{ per batch} / 50 \text{ units per batch} = \6.55 per unit

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

26) What are the indirect manufacturing costs per remote control assuming an activity-based-costing method is used and a batch of 100 remote controls are produced? The batch requires 500 parts, 10 direct manufacturing labor hours, and 5 minutes of inspection time.

- A) \$12.15 per remote control
- B) \$1215 per remote control
- C) \$24.30 per remote control
- D) \$48.60 per remote control

Answer: A

Explanation: A) $(\$2 \times 500) + (\$20 \times 10) + (\$3 \times 5) = \1215.00 per batch/ 100 units per batch = \$12.15 per unit

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Gregory Enterprises has identified three cost pools to allocate overhead costs. The following estimates are provided for the coming year:

<u>Cost Pool</u>	<u>Overhead Costs</u>	<u>Cost driver</u>	<u>Activity level</u>
Supervision of direct labor	\$320,000	Direct labor-hours	800,000
Machine maintenance	\$120,000	Machine-hours	960,000
Facility rent	<u>\$200,000</u>	Square feet of area	100,000
Total overhead costs	<u>\$640,000</u>		

The accounting records show the Mossman Job consumed the following resources:

<u>Cost driver</u>	<u>Actual level</u>
Direct labor-hours	200
Machine-hours	1,600
Square feet of area	50

27) If Gregory Enterprises uses the three activity cost pools to allocate overhead costs, what are the activity-cost driver rates for supervision of direct labor, machine maintenance, and facility rent, respectively?

- A) \$0.60 per dlh, \$0.025 per mh, \$0.80 per sq ft
- B) \$1.25 per dlh, \$0.25 per mh, \$0.50 per sq ft
- C) \$0.40 per dlh, \$0.05 per mh, \$0.20 per sq ft
- D) \$0.40 per dlh, \$0.125 per mh, \$2 per sq ft

Answer: D

Explanation: D) Supervision cost driver rate is \$0.40 per dlh = $\$320,000 / 800,000$ dlh

Machine maintenance cost driver rate is \$0.125 per mh = $\$120,000 / 960,000$ mh

Facility rent cost driver rate is \$2 per sq ft = $\$200,000 / 100,000$ sq ft

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

28) Using the three cost pools to allocate overhead costs, what is the total amount of overhead costs to be allocated to the Mossman Job?

A) \$200

B) \$380

C) \$675

D) \$170

Answer: B

Explanation: B) $\$380 = (200 \times \$0.40 \text{ per dlh}) + (1,600 \times \$0.125 \text{ per mh}) + (50 \times \$2 \text{ per sq ft})$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Velshi Printers has contracts to complete weekly supplements required by forty-six customers. For the year 2010, manufacturing overhead cost estimates total \$840,000 for an annual production capacity of 12 million pages.

For 2010 Velshi Printers has decided to evaluate the use of additional cost pools. After analyzing manufacturing overhead costs, it was determined that number of design changes, setups, and inspections are the primary manufacturing overhead cost drivers. The following information was gathered during the analysis:

<u>Cost pool</u>	<u>Manufacturing overhead costs</u>	<u>Activity level</u>
Design changes	\$ 120,000	300 design changes
Setups	640,000	5,000 setups
Inspections	80,000	8,000 inspections
Total manufacturing overhead costs	<u>\$840,000</u>	

During 2010, two customers, Money Managers and Hospital Systems, are expected to use the following printing services:

<u>Activity</u>	<u>Money Managers</u>	<u>Hospital Systems</u>
Pages	60,000	76,000
Design changes	10	0
Setups	20	10
Inspections	30	38

29) Assuming activity-cost pools are used, what are the activity-cost driver rates for design changes, setups, and inspections cost pools?

- A) \$400 per change, \$128 per setup, \$10 per inspection
- B) \$360 per change, \$320 per setup, \$6.40 per inspection
- C) \$168 per change, \$538 per setup, \$42 per inspection
- D) \$286 per change, \$152 per setup, \$20 per inspection

Answer: A

Explanation:

A) Design changes: \$400 per change = (\$120,000 / 300 design changes)

Setups: \$128 per setup = (\$640,000 / 5,000 setups)

Inspections: \$10 per inspection = (\$80,000 / 8,000 inspections)

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

30) Using the three cost pools to allocate overhead costs, what is the total manufacturing overhead cost estimate for Money Managers during 2010?

A) \$13,700

B) \$6,500

C) \$6,860

D) \$10,192

Answer: C

Explanation:

C) $\$6,860 = (10 \times \$400 \text{ per change} = \$4,000) + (20 \times \$128 \text{ per setup} = \$2,560) + (30 \times \$10 \text{ per inspection} = \$300)$

Diff: 3

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

Answer the following questions using the information below:

Whitman Printing has contracts to complete weekly supplements required by forty-six customers. For the year 20X5, manufacturing overhead cost estimates total \$840,000 for an annual production capacity of 12 million pages.

For 2010 Whitman Printing decided to evaluate the use of additional cost pools. After analyzing manufacturing overhead costs, it was determined that number of design changes, setups, and inspections are the primary manufacturing overhead cost drivers. The following information was gathered during the analysis:

<u>Cost pool</u>	<u>Manufacturing overhead costs</u>	<u>Activity level</u>
Design changes	\$ 120,000	200 design changes
Setups	640,000	4,000 setups
Inspections	80,000	16,000 inspections
Total manufacturing overhead costs	<u>\$840,000</u>	

During 2010, two customers, Money Managers and Hospital Systems, are expected to use the following printing services:

<u>Activity</u>	<u>Money Managers</u>	<u>Hospital Systems</u>
Pages	60,000	76,000
Design changes	10	2
Setups	20	10
Inspections	30	38

31) Assuming activity-cost pools are used, what are the activity-cost driver rates for design changes, setups, and inspections cost pools?

- A) \$600 per change, \$160 per setup, \$5.00 per inspection
- B) \$500 per change, \$400 per setup, \$7.50 per inspection
- C) \$420 per change, \$210 per setup, \$52.50 per inspection
- D) \$666 per change, \$250 per setup, \$8.00 per inspection

Answer: A

Explanation:

A) Design changes: \$600 per change = $(\$120,000 / 200 \text{ design changes})$

Setups: \$160 per setup = $(\$640,000 / 4,000 \text{ setups})$

Inspections \$5.00 per inspection = $(\$80,000 / 16,000 \text{ inspections})$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

32) Using the activity-cost driver rates determined in the previous question, what is the manufacturing overhead cost estimate for Hospital Systems during 2010?

A) \$6,227.50

B) \$2,990.00

C) \$4,136.00

D) \$6,825.00

Answer: B

Explanation: B) $\$2,990 = (2 \times \$600 \text{ per change}) + (10 \times \$160 \text{ per setup}) + (38 \times \$5.00 \text{ per inspection})$

Diff: 3

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Analytical skills

33) Availability of reliable data and measures should be considered when choosing a cost-allocation base.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

34) When designing a costing system, it is easiest to calculate per-unit costs first, and then total costs.

Answer: FALSE

Explanation: When designing a costing system, it is easiest to calculate total costs first, and then per-unit costs.

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

35) ABC systems attempt to trace more costs as indirect costs.

Answer: FALSE

Explanation: ABC systems attempt to trace more costs as direct costs.

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

36) ABC systems create heterogeneous cost pools linked to different activities.

Answer: FALSE

Explanation: ABC systems create homogeneous cost pools linked to different activities.

Diff: 1

Terms: activity

Objective: 5

AACSB: Reflective thinking

37) ABC systems seek a cost allocation base that has a cause-and-effect relationship with costs in the cost pool.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Reflective thinking

38) For service organizations, activity-based cost systems may be used to clarify appropriate cost assignments.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 5

AACSB: Use of Information Technology

39) For each of the following activities identify an appropriate activity-cost driver.

- a. machine maintenance
- b. machine setup
- c. quality control
- d. material ordering
- e. production scheduling
- f. warehouse expense
- g. engineering design

Answer: Any one of the listed cost drivers is correct.

<u>Activity</u>			
<u>A. Machine Maintenance</u>	# of machines	Machine hours	Actual times for various maintenances of various machines
<u>B. Machine Setup</u>	# of setups	Setup hours	Actual times for various setups for various machines
<u>C. Quality Control</u>	# of inspections	Inspection hours	Actual times for various inspections for various controls
<u>D. Material Ordering</u>	# of orders	Ordering hours	Actual times for various orders for various materials
<u>E. Production Scheduling</u>	# of runs	Scheduling hours	Actual times for various runs for various schedules
<u>F. Warehousing</u>	# of bins, aisles	Picking hours	Actual times for various parts for various warehousing activities
<u>G. Engineering Design</u>	# of engineers # of designs	Engineering hours	Actual times for various engineering designs

Diff: 2

Terms: activity

Objective: 3, 5

AACSB: Analytical skills

Objective 5.6

Answer the following questions using the information below:

Gregory Enterprises has identified three cost pools to allocate overhead costs. The following estimates are provided for the coming year:

<u>Cost Pool</u>	<u>Overhead Costs</u>	<u>Cost driver</u>	<u>Activity level</u>
Supervision of direct labor	\$320,000	Direct labor-hours	800,000
Machine maintenance	\$120,000	Machine-hours	960,000
Facility rent	<u>\$200,000</u>	Square feet of area	100,000
Total overhead costs	<u>\$640,000</u>		

The accounting records show the Mossman Job consumed the following resources:

<u>Cost driver</u>	<u>Actual level</u>
Direct labor-hours	200
Machine-hours	1,600
Square feet of area	50

1) Which method of allocation probably best estimates actual overhead costs used? Why?

A) Single direct labor-hours cost driver because it is best to allocate total costs uniformly to individual jobs.

B) Single direct labor-hours cost driver because it is easiest to analyze and interpret.

C) Three activity-cost drivers because they best reflect the relative consumption of resources.

D) Three activity-cost drivers because product costs can be significantly cross-subsidized.

Answer: C

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

2) It only makes sense to implement an ABC system when:

A) ABC provides information to make better decisions

B) its benefits exceed implementation costs

C) ABC traces more costs as direct costs

D) there is a strong cause-and-effect relationship between costs in the cost pools and their cost-allocation bases

Answer: B

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

3) Which of the following is a sign that an ABC system may be useful?

A) There are small amounts of indirect costs.

B) Products make diverse demands on resources because of differences in volume, process steps, batch size, or complexity.

C) Products a company is less suited to produce and sell show small profits.

D) Operations staff agrees with accountants about the costs of manufacturing and marketing products and services.

Answer: B

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

4) Smaller cost distortions occur when the traditional systems' single indirect-cost rate and the activity-cost-driver rates:

A) use the same total costs for computations

B) are similar in proportion to each other

C) are more different than alike

D) use the same cost driver units

Answer: B

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

5) Activity-based costing systems provide better product costs when they:

A) employ more activity-cost drivers

B) employ fewer activity-cost drivers

C) identify and cost more indirect cost differences among products

D) always yield more accurate product costs than traditional systems

Answer: C

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

6) Factories producing a more varied and complex mix of products have higher costs than factories producing only a narrow range of products because:

A) more variations and complexities require more activities

B) they require more engineers

C) they require more direct laborers

D) they buy more robotics

Answer: A

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

- 7) Which of the following is NOT a sign that a "smoothing out" costing system exists?
- A) Operations managers don't use the data originated by the cost system.
 - B) Products that a company is well suited to make and sell show large profits.
 - C) New product variations have been added, but the cost system has not been upgraded.
 - D) The company loses bids they believe were priced competitively.

Answer: B

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

Answer the following questions using the information below:

Cannady produces six products. Under their traditional cost system using one cost driver, SR6 costs \$168.00 per unit. An analysis of the activities and their costs revealed that three cost drivers would be used under the new ABC system. The new cost of SR6 was determined to be \$178.00 per unit.

- 8) The total amount of indirect costs assigned to product SR6 using the traditional method is _____ the total amount assigned using ABC.
- A) more than
 - B) less than
 - C) identical to
 - D) None of these answers are correct.

Answer: B

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Analytical skills

- 9) Given this change in the cost:

- A) SR6 will now command a higher sales price
- B) SR6 has benefited from the new system
- C) SR6 is definitely more accurately costed
- D) the costing results for SR6 under the new system depend on the adequacy and quality of the estimated cost drivers and costs used by the system

Answer: D

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Analytical skills

Answer the following questions using the information below:

Chess Woods Limited produces two products: wooden chess pieces and wooden inlaid chess boards. Under their traditional cost system using one cost driver (direct manufacturing labor hours), the cost of a set of wooden chess pieces is \$325.00. An analysis of the activities and their costs revealed that three cost drivers would be used under a new ABC system. These cost drivers would be equipment usage, storage area for the material, and type of woods used. The new cost of a set of chess pieces was determined to be \$298.00 per set.

10) The total amount of indirect cost assigned to produce chess pieces using the traditional method is _____ the total amount assigned using ABC.

- A) more than
- B) less than
- C) identical to
- D) None of these answers are correct.

Answer: A

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Analytical skills

11) Given this change in the cost structure:

- A) The costing results for chess pieces under the new system depend on the adequacy and quality of the estimated cost drivers and costs used by the system.
- B) Chess pieces have benefited from the new system.
- C) Chess pieces are definitely more accurately costed.
- D) Chess will now have a lower sales price.

Answer: A

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Analytical skills

12) The goal of a properly constructed ABC system is to:

- A) have the most accurate cost system
- B) identify more indirect costs
- C) develop the best cost system for an economically reasonable cost
- D) have separate allocation rates for each department

Answer: C

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

13) ABC systems always provide decision-making benefits that exceed implementation costs.

Answer: FALSE

Explanation: ABC system decision-making benefits do not always exceed implementation costs. This issue needs to be evaluated and if the costs exceed the benefits, then an ABC system should not be implemented.

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Ethical reasoning

14) The primary costs of an ABC system are the measurements necessary to implement the system.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

15) Simply because activity-based costing systems employ more activity-cost drivers, they provide more accurate product costs than traditional systems.

Answer: FALSE

Explanation: When there are more activity-cost drivers, there is also more room for error, which may not result in more accurate products costs.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 6

AACSB: Reflective thinking

16) Rachel's Pet Supply Corporation manufactures two models of grooming stations, a standard and a deluxe model. The following activity and cost information has been compiled:

<u>Product</u>	<u>Number of Setups</u>	<u>Number of Components</u>	<u>Number of Direct Labor Hours</u>
Standard	3	30	650
Deluxe	7	50	150

Overhead costs	\$40,000	\$120,000
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Assume a traditional costing system applies the \$160,000 of overhead costs based on direct labor hours.

- What is the total amount of overhead costs assigned to the standard model?
- What is the total amount of overhead costs assigned to the deluxe model?

Assume an activity-based costing system is used and that the number of setups and the number of components are identified as the activity-cost drivers for overhead.

- What is the total amount of overhead costs assigned to the standard model?
- What is the total amount of overhead costs assigned to the deluxe model?
- Explain the difference between the costs obtained from the traditional costing system and the ABC system. Which system provides a better estimate of costs? Why?

Answer:

a. $[\$160,000 / (650 + 150)] \times 650 = \$130,000$

b. $[\$160,000 / (650 + 150)] \times 150 = \$30,000$

c. Setups: $\$40,000 / (3 + 7) = \$4,000$
 Components: $\$120,000 / (30 + 50) = \$1,500$
 $(\$4,000 \times 3) + (\$1,500 \times 30) = \$57,000$

d. $(\$4,000 \times 7) + (\$1,500 \times 50) = \$103,000$

e. Because the products do not all require the same proportionate shares of the overhead resources of setup hours and components, the ABC system provides different results than the traditional system which allocates overhead costs on the basis of direct labor hours. The ABC system considers some important differences in overhead resource requirements and thus provides a better picture of the costs from each grooming table style, provided that the activity measures are fairly estimated.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 1, 3, 5, 6

AACSB: Analytical skills

17) Come-On-In Manufacturing produces two types of entry doors: Deluxe and Standard. The assignment basis for support costs has been direct labor dollars. For 2010, Come-On-In compiled the following data for the two products:

	<u>Deluxe</u>	<u>Standard</u>
Sales units	\$50,000	\$400,000
Sales price per unit	\$650.00	\$475.00
Direct material and labor costs per unit	\$180.00	\$130.00
Manufacturing support costs per unit	\$ 80.00	\$120.00

Last year, Come-On-In Manufacturing purchased an expensive robotics system to allow for more decorative door products in the deluxe product line. The CFO suggested that an ABC analysis could be valuable to help evaluate a product mix and promotion strategy for the next sales campaign. She obtained the following ABC information for 2010:

<u>Activity</u>	<u>Cost Driver</u>	<u>Cost</u>	<u>Total</u>	<u>Deluxe</u>	<u>Standard</u>
Setups	of setups	\$ 500,000	500	400	100
Machine-related	of machine hours	\$44,000,000	600,000	300,000	300,000
Packing	of shipments	\$ 5,000,000	250,000	50,000	200,000

Required:

- Using the current system, what is the estimated
 - total cost of manufacturing one unit for each type of door?
 - profit per unit for each type of door?
- Using the current system, estimated manufacturing overhead costs per unit are less for the deluxe door (\$80 per unit) than the standard door (\$120 per unit). What is a likely explanation for this?
- Review the machine-related costs above. What is a likely explanation for machine-related costs being so high? What might explain why total machining hours for the deluxe doors (300,000 hours) are the same as for the standard doors (300,000 hours)?
- Using the activity-based costing data presented above,
 - compute the cost-driver rate for each overhead activity.
 - compute the revised manufacturing overhead cost per unit for each type of entry door.
 - compute the revised total cost to manufacture one unit of each type of entry door.
- Is the deluxe door as profitable as the original data estimated? Why or why not?
- What considerations need to be examined when determining a sales mix strategy?

Answer:

a. Currently estimated deluxe-entry door total cost per unit is $\$260 = \$180 + \$80$.

Currently estimated standard-entry door total cost per unit is $\$250 = \$130 + \$120$.

Currently estimated deluxe-entry door profit per unit is $\$390 = \$650 - \$260$.

Currently estimated standard-entry door profit per unit is $\$225 = \$475 - \$250$.

b. Support manufacturing costs are currently allocated based on direct labor dollars. Because the deluxe doors are manufactured using the new robotics system, it appears that less direct labor is needed to manufacture each unit in the deluxe product line.

c. The high machine-related costs are probably a result of purchasing the new robotics equipment for the deluxe product line. Yes, the total number of machine hours is the same for each product line, but the deluxe line uses 6 machine hours per unit (300,000 mh / 50,000 units), while the standard product line only uses 0.75 machine hours per unit (300,000 mh / 400,000 units). By evaluating machine hours per unit rather than total machine hours, these numbers make more sense.

d1. Manufacturing overhead cost driver rates:

Setup activity is $\$1,000/\text{setup} = \$500,000/500 \text{ setups}$.

Machine-related activity is $\$73.33/\text{machine hour} = \$44,000,000/600,000 \text{ machine hours}$.

Packing activity is $\$20/\text{shipment} = \$5,000,000/250,000 \text{ shipments}$.

d2. Revised overhead costs per unit:

Deluxe-entry door is $\$468 \text{ per unit}$

$= [(\$1,000 \times 400) + (\$73.33 \times 300,000) + (\$20 \times 50,000)] / 50,000 \text{ units}$.

Standard-entry door is $\$65.25 \text{ per unit}$

$= [(\$1,000 \times 100) + (\$73.33 \times 300,000) + (\$20 \times 200,000)] / 400,000 \text{ units}$.

d3. Revised total cost per unit for the deluxe-entry door is $\$648.00 = \$180.00 + \$468.00$.

Revised total cost per unit for the standard-entry door is $\$195.25 = \$130.00 + \$65.25$.

e. No, the deluxe door is not as profitable as originally estimated because the deluxe door requires a disproportionate share of the overhead activities (the robotics system) and thus, more of the overhead costs are assigned to the deluxe door when using an ABC system.

Revised profit per unit for the deluxe-entry door is $\$2.00 = \$650.00 - \$648.00$.

Revised profit per unit for the standard-entry door is $\$279.75 = \$475.00 - \$195.25$.

Currently estimated deluxe-entry door profit per unit is $\$390 = \$650 - \$260$.

Currently estimated standard-entry door profit per unit is $\$225 = \$475 - \$250$.

f. First, the sales-mix strategy ought to consider the current and future market demands for the two types of entry doors. Other considerations include the capacity-related constraints of the robotics system, other equipment, and the facilities. The fact that customers may be willing to pay more for the deluxe doors should be considered when evaluating the profitability of each product line. Costs do not drive a sales-mix strategy.

Diff: 3

Terms: activity-based costing (ABC)

Objective: 1, 3, 5, 6

AACSB: Analytical skills

18) Brilliant Accents Company manufactures and sells three styles of kitchen faucets: Brass, Chrome, and White. Production takes 25, 25, and 10 machine hours to manufacture 1,000-unit batches of brass, chrome, and white faucets, respectively. The following additional data apply:

	<u>BRASS</u>	<u>CHROME</u>	<u>WHITE</u>
Projected sales in units	30,000	50,000	40,000

PER UNIT data:

Selling price	\$40	\$20	\$30
Direct materials	\$ 8	\$ 4	\$ 8
Direct labor	\$15	\$ 3	\$ 9
Overhead cost based on direct labor hours (traditional system)	\$12	\$ 3	\$ 9

Hours per 1000-unit batch:

Direct labor hours	40	10	30
Machine hours	25	25	10
Setup hours	1.0	0.5	1.0
Inspection hours	30	20	20

Total overhead costs and activity levels for the year are estimated as follows:

<u>Activity</u>	<u>Overhead costs</u>	<u>Activity levels</u>
Direct labor hours		2,900 hours
Machine hours		2,400 hours
Setups	\$465,500	95 setup hours
Inspections	<u>\$405,000</u>	2,700 inspection hours
	<u>\$870,500</u>	

Required:

- Using the traditional system, determine the operating profit per unit for the brass style of faucet.
- Determine the activity-cost-driver rate for setup costs and inspection costs.
- Using the ABC system, for the brass style of faucet:
 - compute the estimated overhead costs per unit.
 - compute the estimated operating profit per unit.
- Explain the difference between the profits obtained from the traditional system and the ABC system. Which system provides a better estimate of profitability? Why?

Answer:

a. Traditional system:

Operating profit per unit for Brass faucets is $\$5 = \$40 - (\$8 + 15 + 12)$.

b. The activity-cost-driver rate for setup costs is $\$4,900$ per setup hour $= \$465,500/95$, and for inspection costs is $\$150$ per inspection hour $= \$405,000/2,700$.

c. ABC system:

Overhead costs per unit for Brass faucets are $\$9.40$ per unit.

$30,000$ units in projected sales / 1000 units per batch = 30 batches;

30 batches \times 1 setup hour per batch = 30 setup hours;

30 batches \times 30 inspection hours per batch = 900 inspection hours.

30 setup hours \times $\$4,900 = \$147,000/30,000$ units = $\$4.90/\text{unit}$

900 inspection hours \times $\$150 = \$135,000/30,000$ units = $\$4.50/\text{unit}$

Overhead costs for Brass faucets $(\$4.90 + \$4.50) = \$9.40$ per unit.

Operating profit per unit for Brass faucets is $\$7.60 = \$40 - (\$8 + 15 + 9.40)$.

d. Traditional system: Operating profit per unit for Brass faucets is $\$5.00$.

ABC system: Operating profit per unit for Brass faucets is $\$7.60$.

Because the products do not all require the same proportionate shares of the support resources of setup hours and inspection hours, the ABC system provides different results than the traditional system, which allocates overhead costs on the basis of direct labor hours. The ABC system considers some important differences in overhead resource requirements and thus provides a better picture of the profitability from each faucet style provided that the activity measures are fairly estimated.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 1, 3, 5, 6

AACSB: Analytical skills

19) Brilliant Accents Company manufactures and sells three styles of kitchen faucets: Brass, Chrome, and White. Production takes 25, 25, and 10 machine hours to manufacture 1000-unit batches of brass, chrome and white faucets, respectively. The following additional data apply:

	<u>BRASS</u>	<u>CHROME</u>	<u>WHITE</u>
Projected sales in units	30,000	50,000	40,000

PER UNIT data:

Selling price	\$40	\$20	\$30
Direct materials	\$ 8	\$ 4	\$ 8
Direct labor	\$15	\$ 3	\$ 9
Overhead cost based on direct labor hours (traditional system)	\$12	\$ 3	\$ 9

Hours per 1000-unit batch:

Direct labor hours	40	10	30
Machine hours	25	25	10
Setup hours	1.0	0.5	1.0
Inspection hours	30	20	20

Total overhead costs and activity levels for the year are estimated as follows:

<u>Activity</u>	<u>Overhead costs</u>	<u>Activity levels</u>
Direct labor hours		2,900 hours
Machine hours		2,400 hours
Setups	\$465,500	95 setup hours
Inspections	<u>\$405,000</u>	2,700 inspection hours
	<u>\$870,500</u>	

Required:

- Using the traditional system, determine the operating profit per unit for each style of faucet.
- Determine the activity-cost-driver rate for setup costs and inspection costs.
- Using the ABC system, for each style of faucet
 - compute the estimated overhead costs per unit.
 - compute the estimated operating profit per unit.
- Explain the differences between the profits obtained from the traditional system and the ABC system. Which system provides a better estimate of profitability? Why?

Answer:

a. Traditional system:

Operating profit per unit for Brass faucets is $\$5 = \$40 - (\$8 + \$15 + \$12)$

Operating profit per unit for Chrome faucets is $\$10 = \$20 - (\$4 + \$3 + \$3)$

Operating profit per unit for White faucets is $\$4 = \$30 - (\$8 + \$9 + \$9)$

b. The activity-cost-driver rate for setup costs is $\$4,900$ per setup hour = $\$465,500/95$, and for inspection costs is $\$150$ per inspection hour = $\$405,000/2,700$.

c. ABC system:

Overhead costs per unit for *Brass faucets* are $\$9.40$ per unit.

30,000 units in projected sales / 1,000 units per batch = 30 batches;

30 batches \times 1 setup hour per batch = 30 setup hours;

30 batches \times 30 inspection hours per batch = 900 inspection hours

30 setup hours \times $\$4,900 = \$147,000/30,000$ units = $\$4.90/\text{unit}$

900 inspection hours \times $\$150 = \$135,000/30,000$ units = $\$4.50/\text{unit}$

Overhead costs for Brass faucets $(\$4.90 + \$4.50) = \$9.40$ per unit

Operating profit per unit for Brass faucets is $\$7.60 = \$40 - (\$8 + \$15 + \$9.40)$.

Overhead costs per unit for *Chrome faucets* are $\$5.45$ per unit.

50,000 units in projected sales / 1,000 units per batch = 50 batches;

50 batches \times .5 setup hour per batch = 25 setup hours;

50 batches \times 20 inspection hours per batch = 1,000 inspection hours

25 setup hours \times $\$4,900 = \$122,500/50,000$ units = $\$2.45/\text{unit}$

1,000 inspection hours \times $\$150 = \$150,000/50,000$ units = $\$3.00/\text{unit}$

Overhead costs for Chrome faucets $(\$2.45 + \$3.00) = \$5.45$ per unit

Operating profit per unit for Chrome faucets is $\$7.55 = \$20 - (\$4 + \$3 + \$5.45)$.

Overhead costs per unit for *White faucets* are $\$7.90$ per unit.

40,000 units in projected sales/ 1,000 units per batch = 40 batches;

40 batches \times 1 setup hour per batch = 40 setup hours;

40 batches \times 20 inspection hours per batch = 800 inspection hours

40 setup hours \times $\$4,900 = \$196,000/40,000$ units = $\$4.90/\text{unit}$

800 inspection hours \times $\$150 = \$120,000/40,000$ units = $\$3.00/\text{unit}$

Overhead costs for white faucets $(\$4.90 + \$3.00) = \$7.90$ per unit.

Operating profit per unit for White faucets is $\$5.10 = \$30 - (\$8 + \$9 + \$7.90)$.

d. Traditional system:

Operating profit per unit for Brass faucets is $\$5 = \$40 - (\$8 + \$15 + \$12)$.

Operating profit per unit for Chrome faucets is $\$10 = \$20 - (\$4 + \$3 + \$3)$.

Operating profit per unit for White faucets is $\$4 = \$30 - (\$8 + \$9 + \$9)$.

ABC system:

Operating profit per unit for Brass faucets is $\$7.60 = \$40 - (\$8 + \$15 + \$9.40)$.

Operating profit per unit for Chrome faucets is $\$7.55 = \$20 - (\$4 + \$3 + \$5.45)$.

Operating profit per unit for White faucets is $\$5.10 = \$30 - (\$8 + \$9 + \$7.90)$.

Because the products do not all require the same proportionate shares of the overhead resources of setup hours and inspection hours, the ABC system provides different results than the traditional system, which allocates overhead costs on the basis of direct labor hours. The ABC system considers some important differences in overhead resource requirements and thus provides a better picture of the profitability from each faucet style provided that the activity measures are fairly estimated.

Diff: 3

Terms: activity-based costing (ABC)

Objective: 1, 3, 5, 6

AACSB: Analytical skills

20) Aunt Ethel's Fancy Cookie Company manufactures and sells three flavors of cookies: Macaroon, Sugar, and Buttercream. The batch size for the cookies is limited to 1,000 cookies based on the size of the ovens and cookie molds owned by the company. Based on budgetary projections, the information listed below is available:

	<u>Macaroon</u>	<u>Sugar</u>	<u>Buttercream</u>
Projected sales in units	500,000	800,000	600,000

PER UNIT data:

Selling price	\$0.80	\$0.75	\$0.60
Direct materials	\$0.20	\$0.15	\$0.14
Direct labor	\$0.04	\$0.02	\$0.02

Hours per 1000-unit batch:

Direct labor hours	2	1	1
Oven hours	1	1	1
Packaging hours	0.5	0.5	0.5

Total overhead costs and activity levels for the year are estimated as follows:

<u>Activity</u>	<u>Overhead costs</u>	<u>Activity levels</u>
Direct labor		2,400 hours
Oven	\$210,000	1,900 oven hours
Packaging	\$150,000	950 packaging hours
	<u>\$360,000</u>	

Required:

- Determine the activity-cost-driver rate for packaging costs.
- Using the ABC system, for the sugar cookie:
 - compute the estimated overhead costs per thousand cookies.
 - compute the estimated operating profit per thousand cookies.
- Using a traditional system (with direct labor hours as the overhead allocation base), for the sugar cookie:
 - compute the estimated overhead costs per thousand cookies.
 - compute the estimated operating profit per thousand cookies.
- Explain the difference between the profits obtained from the traditional system and the ABC system. Which system provides a better estimate of profitability? Why?

Answer:

a.

$$\begin{aligned}\text{activity-cost-driver rate} &= \text{packaging overhead} / \text{packaging hours} \\ &= \$150,000 / 950 \text{ hours} \\ &= \$157.89 \text{ per packaging hour}\end{aligned}$$

b.

1. To compute the estimated overhead costs for a batch of sugar cookies (using the ABC system), first calculate the activity-cost-driver rate for the oven activity.

$$\begin{aligned}\text{activity-cost-driver rate} &= \text{oven overhead} / \text{oven hours} \\ &= \$210,000 / 1,900 \text{ hours} \\ &= \$110.53 \text{ per oven hour}\end{aligned}$$

Then calculate the overhead for a 1,000 cookie batch by multiplying the number of activity hours per batch by the appropriate activity-cost-driver rate for each of the relevant overhead activities and sum to get the total overhead for the batch.

$$(1 \times \$110.53) + (.5 \times \$157.89) = \$189.48$$

2. To compute the estimated operating profit for a batch of sugar cookies (using the ABC system), subtract the costs from the revenues:

Revenue	= 1,000 * \$0.75 = \$ 750.00
Direct Material	= 1,000 * \$.015 = (\$150.00)
Direct Labor	= 1,000 * \$.02 = (\$ 20.00)
Overhead	= <u>(\$189.48)</u>

Operating Profit	= \$ 390.52
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c. 1. To compute the estimated overhead costs for a batch of sugar cookies (using the traditional system), first calculate the overhead rate per direct labor hour.

$$\begin{aligned}\text{Overhead per direct labor hour} &= \text{Total Overhead} / \text{Total Direct Labor Hours} \\ &= \$ 360,000 / 2,400 \text{ hours} \\ &= \$ 150.00 \text{ per direct labor hour}\end{aligned}$$

Since it takes 1 direct labor hour per 1,000 sugar cookies, the overhead is \$150.00

2. To compute the estimated operating profit for a batch of sugar cookies (using the traditional system), subtract the costs from the revenues:

Revenue	= 1,000 * \$0.75 = \$ 750.00
Direct Material	= 1,000 * \$.015 = (\$150.00)
Direct Labor	= 1,000 * \$.02 = (\$ 20.00)
Overhead	= <u>(\$150.00)</u>

Operating Profit	= \$ 430.00
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- d. Traditional system: Operating profit per batch of sugar cookies is \$430.00.
ABC system: Operating profit per batch of sugar cookies is \$390.52.

Because the products do not all require the same proportionate shares of the direct labor resources, the allocation of the total overhead on that basis is not as accurate as using the ABC system. The ABC system allocates the overhead based on activity levels for the specific categories as well as activity usage by the product lines.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 1, 3, 5, 6

AACSB: Analytical skills

Objective 5.7

Answer the following questions using the information below:

Velshi Printers has contracts to complete weekly supplements required by forty-six customers. For the year 2010, manufacturing overhead cost estimates total \$840,000 for an annual production capacity of 12 million pages.

For 2010 Velshi Printers has decided to evaluate the use of additional cost pools. After analyzing manufacturing overhead costs, it was determined that number of design changes, setups, and inspections are the primary manufacturing overhead cost drivers. The following information was gathered during the analysis:

<u>Cost pool</u>	<u>Manufacturing overhead costs</u>	<u>Activity level</u>
Design changes	\$ 120,000	300 design changes
Setups	640,000	5,000 setups
Inspections	80,000	8,000 inspections
Total manufacturing overhead costs	<u>\$840,000</u>	

During 2010, two customers, Money Managers and Hospital Systems, are expected to use the following printing services:

<u>Activity</u>	<u>Money Managers</u>	<u>Hospital Systems</u>
Pages	60,000	76,000
Design changes	10	0
Setups	20	10
Inspections	30	38

1) When costs are assigned using the single cost driver, number of pages printed, then:

- A) Velshi Printers will want to retain this highly profitable customer
- B) Money Managers will likely seek to do business with competitors
- C) Money Managers is unfairly over billed for its use of printing resources
- D) Money Managers is grossly under billed for the job, while other jobs will be unfairly over billed

Answer: D

Diff: 3

Terms: activity-based costing (ABC)

Objective: 7

AACSB: Analytical skills

Answer the following questions using the information below:

Whitman Printing has contracts to complete weekly supplements required by forty-six customers. For the year 20X5, manufacturing overhead cost estimates total \$840,000 for an annual production capacity of 12 million pages.

For 2010 Whitman Printing decided to evaluate the use of additional cost pools. After analyzing manufacturing overhead costs, it was determined that number of design changes, setups, and inspections are the primary manufacturing overhead cost drivers. The following information was gathered during the analysis:

<u>Cost pool</u>	<u>Manufacturing overhead costs</u>	<u>Activity level</u>
Design changes	\$ 120,000	200 design changes
Setups	640,000	4,000 setups
Inspections	80,000	16,000 inspections
Total manufacturing overhead costs	<u>\$840,000</u>	

During 2010, two customers, Money Managers and Hospital Systems, are expected to use the following printing services:

<u>Activity</u>	<u>Money Managers</u>	<u>Hospital Systems</u>
Pages	60,000	76,000
Design changes	10	2
Setups	20	10
Inspections	30	38

2) When costs are assigned using the single cost driver, number of pages printed, then Hospital Systems:

- A) is fairly billed because resources are allocated uniformly to all jobs
- B) is grossly under billed for the job, while other jobs will be unfairly over billed
- C) will likely seek to do business with competitors
- D) will contribute too little to profits, and Wallace Printing will not want to accept additional work from the company

Answer: C

Diff: 3

Terms: activity-based costing (ABC)

Objective: 7

AACSB: Analytical skills

3) Activity-based-costing information:

- A) should be used when services place similar demands on resources
- B) usually results in peanut-butter costing
- C) will yield inaccurate cost numbers when products are similar
- D) may assist in improving product design and efficiency

Answer: D

Diff: 2

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

4) Activity-based management (ABM) includes decisions about all EXCEPT:

- A) pricing and product mix
- B) smoothing costs
- C) reducing costs
- D) improving processes

Answer: B

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

5) ABC systems:

- A) reveal activities that can be eliminated
- B) help control nonfinancial items such as number of setup hours
- C) help identify new designs to reduce costs
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

6) Companies use ABC system information to:

- A) analyze costs
- B) prepare budgets
- C) evaluate performance
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

7) It is important that the product costs reflect as much of the diversity and complexity of the manufacturing process so that:

- A) product costs will reflect their relative consumption of resources
- B) nonvalue-added costs can be eliminated
- C) there is less likelihood of cross subsidizing of product costs
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

8) A well-designed, activity-based cost system helps managers make better decisions because information derived from an ABC analysis:

- A) can be used to eliminate nonvalue-added activities
- B) is easy to analyze and interpret
- C) takes the choices and judgment challenges away from the managers
- D) emphasizes how managers can achieve higher sales

Answer: A

Diff: 2

Terms: activity-based management (ABM)

Objective: 7

AACSB: Communication

9) A primary reason for assigning selling and distribution costs to products for analytical purposes is:

- A) to justify a varied product mix
- B) that controllers are required to assign all costs when valuing inventories
- C) that different processes, products, and customers require different quantities of selling and distribution activities
- D) that all indirect costs must be assigned

Answer: C

Diff: 2

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

10) For service organizations that bill customers at a predetermined average rate, activity-based cost systems can help to:

- A) clarify appropriate cost assignments for various service activities
- B) identify the profitability of various service activities
- C) Both A and B are correct.
- D) None of these answers are correct.

Answer: C

Diff: 2

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

11) ABC reveals opportunities to focus on value added activities.

Answer: TRUE

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Analytical skills

12) Activity-based management refers to the use of information derived from ABC analysis to analyze and improve operations.

Answer: TRUE

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Communication

13) Information derived from an ABC analysis might be used to eliminate nonvalue-added activities.

Answer: TRUE

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Analytical skills

14) ABC costing systems are primarily for use in manufacturing and marketing and NOT for design engineering.

Answer: FALSE

Explanation: Management can evaluate how its current product and process designs affect activities and costs as a way of identifying new designs to reduce costs.

Diff: 1

Terms: activity-based management (ABM)

Objective: 7

AACSB: Reflective thinking

Objective 5.8

1) Products make diverse demands on resources because of differences in all of the following EXCEPT:

A) volume

B) selling price

C) batch size

D) complexity

Answer: B

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

2) The unique feature of an ABC system is the emphasis on:

A) costing individual jobs

B) department indirect-cost rates

C) multiple-cost pools

D) individual activities

Answer: D

Diff: 3

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

- 3) One department indirect-cost rate is sufficient when:
- A) activities relate to more than one level of the cost hierarchy
 - B) product costs are significantly cross-subsidized
 - C) the same allocation base is appropriate for all departmental activities
 - D) it is a service department

Answer: C

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

Answer the following questions using the information below:

King Corporation has two departments, Small and Large. Central costs could be allocated to the two departments in various ways.

	<u>Small Department</u>	<u>Large Department</u>
Square footage	6,000	18,000
Number of employees	1,120	480
Sales	\$400,000	\$2,000,000

- 4) If advertising expense of \$300,000 is allocated on the basis of sales, the amount allocated to the Small Department would be:

- A) \$50,000
- B) \$75,000
- C) \$210,000
- D) \$250,000

Answer: A

Explanation: A) $\$300,000 \times \$400,000 / (\$400,000 + \$2,000,000) = \$50,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

- 5) If total advertising expense of \$300,000 is allocated on the basis of sales, the amount allocated to the Large Department would be:

- A) \$225,000
- B) \$90,000
- C) \$250,000
- D) \$50,000

Answer: C

Explanation: C) $\$300,000 \times \$2,000,000 / (\$400,000 + \$2,000,000) = \$250,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

6) If total payroll processing costs of \$96,000 are allocated on the basis of number of employees, the amount allocated to the Small Department would be:

A) \$67,200

B) \$24,000

C) \$16,000

D) \$28,000

Answer: A

Explanation: A) $\$96,000 \times 1,120 / (1,120 + 480) = \$67,200$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

7) If total payroll processing costs of \$60,000 are allocated on the basis of number of employees, the amount allocated to the Large Department would be:

A) \$42,000

B) \$18,000

C) \$45,000

D) \$50,000

Answer: B

Explanation: B) $\$60,000 \times 480 / (1,120 + 480) = \$18,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

8) If total rent expense of \$120,000 is allocated on the basis of square footage, the amount allocated to the Small Department would be:

A) \$20,000

B) \$30,000

C) \$84,000

D) \$90,000

Answer: B

Explanation: B) $\$120,000 \times 6,000 / (6,000 + 18,000) = \$30,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

9) If total rent expense of \$288,000 is allocated on the basis of square footage, the amount allocated to the Large Department would be:

- A) \$86,400
- B) \$240,000
- C) \$72,000
- D) \$216,000

Answer: D

Explanation: D) $\$288,000 \times 18,000 / (6,000 + 18,000) = \$216,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

Answer the following questions using the information below:

Monster Vehicle Rental Corporation has two departments, Car Rental and Truck Rental. Central costs may be allocated to the two departments in various ways.

	<u>Car Rental</u>	<u>Truck Rental</u>
Number of Vehicles in fleet	700	300
Number of employees	150	50
Sales	\$750,000	\$375,000

10) If administrative expense of \$62,500 is allocated on the basis of number of employees, the amount allocated to the Truck Rental Department would be:

- A) \$37,500
- B) \$62,500
- C) \$46,875
- D) \$15,625

Answer: D

Explanation: D) $\$62,500 \times [50 / (150 + 50)] = \$15,625$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

11) If administrative expense of \$62,500 is allocated on the basis of number of employees, the amount allocated to the Car Rental Department would be:

- A) \$37,500
- B) \$62,500
- C) \$46,875
- D) \$15,625

Answer: C

Explanation: C) $\$62,500 \times [150 / (150 + 50)] = \$46,875$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

12) If advertising expense of \$75,000 is allocated on the basis of sales, the amount allocated to the Car Rental Department would be:

- A) \$50,000
- B) \$62,500
- C) \$25,000
- D) \$37,500

Answer: A

Explanation: $A) \$75,000 * [\$750,000,000/(\$750,000+\$375,000)] = \$50,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

13) If advertising expense of \$112,500 is allocated on the basis of sales, the amount allocated to the Truck Rental Department would be:

- A) \$56,250
- B) \$62,500
- C) \$37,500
- D) \$87,500

Answer: C

Explanation: $C) \$112,500 * [\$375,000/(\$750,000+\$375,000)] = \$37,500$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

14) If the facility lease expense of \$350,000 is allocated on the basis of vehicles in the fleet, the amount allocated to the Truck Rental Department would be:

- A) \$245,000
- B) \$105,000
- C) \$200,000
- D) \$150,000

Answer: B

Explanation: $B) \$350,000 * [300/(700+300)] = \$105,000$

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

15) If the facility lease expense of \$350,000 is allocated on the basis of vehicles in the fleet, the amount allocated to the Car Rental Department would be:

- A) \$245,000
- B) \$105,000
- C) \$200,000
- D) \$150,000

Answer: A

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Analytical skills

16) Using activity-cost rates rather than department indirect-cost rates to allocate costs results in different product costs when:

- A) a single activity accounts for a sizable portion of department costs
- B) there are several homogeneous cost pools
- C) different activities have the same cost-allocation base
- D) different products use different resources in the same proportion

Answer: B

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

17) A key reason for using an ABC system rather than a department-costing system is because ABC assigns indirect costs:

- A) using broader averages
- B) more simply than a department-costing system
- C) in a less costly manner
- D) to reflect differences required by different processes as well as customers

Answer: D

Diff: 1

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

18) ABC systems are a further refinement of department-costing systems.

Answer: TRUE

Diff: 1

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

19) ABC systems are useful in manufacturing, but NOT in the merchandising or service industries.

Answer: FALSE

Explanation: ABC systems can be useful in manufacturing, merchandising, and service industries.

Diff: 1

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

20) Costing systems with multiple cost pools are considered ABC systems.

Answer: FALSE

Explanation: The uniqueness of ABC systems is not simply multiple cost pools, but that the cost pools each relate to different activities.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

21) Regarding department wide systems, the benefits of an ABC system must be balanced against its costs and limitations.

Answer: TRUE

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

22) At Deutschland Electronics, product lines are charged for call center support costs based on sales revenue. Last year's summary of call center operations revealed the following:

	<u>Surveillance Products</u>	<u>Specialty Products</u>
Number of calls for information	1,000	4,000
Average call length for information	3 minutes	8 minutes
Number of calls for warranties	300	1,200
Average call length for warranties	7 minutes	15 minutes
Sales revenue	\$8,000,000	\$5,000,000

Deutschland Electronics currently allocates call center support costs using a rate of 0.5% of sales revenue.

Required:

- Compute the amount of call center support costs allocated to each product line under the current system.
- Assume Deutschland decides to use the *average call length for information* to assign last year's support costs. Does this allocation method seem more appropriate than percentage of sales? Why or why not?
- Assume Deutschland decides to use the *numbers of calls for information and for warranties* to assign last year's support costs of \$65,000. Compute the amount of call center support costs assigned to each product line under this revised ABC system.
- Deutschland Electronics assigns bonuses based on departmental profits. How might the Specialty Products manager try to obtain higher profits for next year if support costs are assigned based on the average call length for information?
- Discuss the barriers for implementing ABC for this call center.

Answer:

- a. Call center support costs allocated to surveillance products is $\$40,000 = 0.005 \times \$8,000,000$ and to specialty products is $\$25,000 = 0.005 \times \$5,000,000$.
- b. Yes, average call length appears to be a more appropriate allocation method because it allocates more support costs to specialty products, which consume a greater portion of the call center's resources.
- c. $\$65,000$ of support costs / $6,500$ total calls (Surveillance $1,000 + 300 +$ Specialty $4,000 + 1,200$) = $\$10$ per call. Call center support costs allocated to surveillance products is $\$13,000 = 1,300 \text{ calls} \times \10 per call, and to specialty products is $\$52,000 = 5,200 \text{ calls} \times \10 per call.
- d. To increase profits, Specialty Product managers would want less cost allocated to their departments. Therefore, if support cost allocation were based on length of call, Specialty Products management may emphasize keeping calls for their department short and to the point, rather than emphasizing understanding and helping the caller.
- e. Poor model design or poor analytical interpretation and accountability consequences may function as barriers to using ABC assignments for the call center activities. It is also important to recognize that the call volumes from this year may be an anomaly so that in an average year, the current allocation rate on sales may not be as distortive as it appears for this year.

Diff: 3

Terms: activity-based costing (ABC)

Objective: 1, 3, 5, 6, 8

AACSB: Analytical skills

23) The Guy Fawkes Company is noted for an exceptionally impressive line of Mardi Gras masks. Guy Fawkes has established the following selling and distribution support activity-cost pools and their corresponding activity drivers for the year 2010:

<u>Activity</u>	<u>Cost</u>	<u>Cost driver</u>
Marketing	\$60,000	\$500,000 of sales
Customer service	20,000	5,000 customer
Order execution	10,000	100 orders
Warehousing	10,000	50 product lines

Required:

- Determine the activity-cost-driver rate for each of the four selling and distribution activities.
- Under what circumstances is it appropriate to use each of the activity-cost drivers?
- Describe at least one possible negative behavioral consequence for each of the four activity-cost drivers.

Answer:

- Activity-cost driver rate for Marketing = 12% of sales = $\$60,000/\$500,000$.
Activity-cost driver rate for Customer Service = \$4 per customer = $\$20,000/5,000$.
Activity-cost driver rate for Order Execution = \$100 per order = $\$10,000/100$.
Activity-cost driver rate for Warehousing = \$200 per order = $\$10,000/50$.
- For marketing, using 12% of stipulated sales is appropriate when management wants to limit marketing costs to a budgeted proportion to sales. Using the number of customers for customer service is appropriate when the customer service costs are similar enough to use the average for all customers. Using the number of orders for order execution is appropriate when all orders are sufficiently alike in terms of resources used that they can be averaged. Using the number of product lines for warehousing is appropriate when each product line requires similar proportions of the warehousing efforts.
- For marketing, using 12% of sales limits the marketing activities to an arbitrary amount without consideration for potential opportunities. Using the number of customers for customer service can lead to customer service initiatives to limit the amount of time servicing each customer to cause the number of customers serviced to increase. Using the number of orders for order execution can result in purchasers splitting orders to increase the numbers of orders executed. Using the number of product lines for warehousing can lead warehouse personnel to designate more product line differences in the warehouse.

Diff: 3

Terms: activity

Objective: 3, 5, 6, 8

AACSB: Analytical skills

24) How are cost drivers selected in activity-based costing systems?

Answer: First, indirect costs are divided into homogeneous cost pools and classified as output unit-level, batch-level, product-sustaining, or facility-sustaining costs. The cost pools correspond to activities. Costs are allocated to products, services, or customers using activity drivers or cost-allocation bases that have a cause-and-effect relationship with each cost pool.

Choices about how to economize on the number of activity-cost drivers, how to isolate events (because activities triggered by the same event often can use the same activity cost driver), and which cost drivers to select are influenced by the fact that the benefit of obtaining cost driver information needs to exceed implementation costs.

Diff: 2

Terms: activity

Objective: 3, 8

AACSB: Reflective thinking

25) Do activity-based costing systems always provide more accurate product costs than conventional cost systems? Why or why not?

Answer: No. Traditional systems contain smaller and fewer cost distortions when the traditional systems' unit-level assignments and the alternative activity-cost drivers are relatively similar in proportion to each other. Still, the use of unit-level measures to assign indirect costs is more likely to undercost low-volume products and more complex products. Both traditional product-costing systems and ABC product-costing systems seek to assign all manufacturing costs to products. Cost distortions occur when a mismatch (incorrect association) occurs between the way support costs are incurred and the basis for their assignment to individual products.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

26) How can the need for a more refined costing system be identified?

Answer: Signs that there is a need for a more refined costing system include the following:

- a. Significant amounts of indirect costs are allocated using only one or two cost pools.
- b. All or most indirect costs are identified as output unit-level costs rather than batch-level, product-sustaining, or facility-sustaining activities.
- c. Products make diverse demands on resources because of differences in volume, process steps, batch size, or complexity.
- d. Products that a company is well suited to make and sell show small profits; whereas, products that a company is less suited to make and sell show large profits.
- e. Operations staff have significant disagreements with the accounting staff about the costs of manufacturing and marketing products and services.

Diff: 2

Terms: activity-based costing (ABC)

Objective: 8

AACSB: Reflective thinking

27) What is activity-based management and how can it be used to improve the profitability of a company?

Answer: Activity-based management is a method of management decision making that uses activity-based costing information to improve customer satisfaction and profitability. Some of the typical issues that require a refined costing system (such as ABC) are pricing and product mix decisions, cost reduction initiatives, streamlining of processes, and decisions that can lead to improved product design based on knowledge of detailed costs of the existing product lines. The gathering of timely and accurate information is one of the crucial steps in the decision-making process. A properly designed ABC system will be likely to efficiently provide detailed costing information to managers in companies that manufacture and distribute diverse product lines.

Diff: 2

Terms: activity-based management (ABM)

Objective: 8

AACSB: Reflective thinking

Cost Accounting, 14e (Horngren/Datar/Rajan)

Chapter 18 Spoilage, Rework, and Scrap

Objective 18.1

1) Managers often cite reductions in the costs of spoilage as a(n):

- A) major justification for implementing a just-in-time production system
- B) measurement of improved output quality
- C) immaterial item that is not to be tracked
- D) indication of improvement in the accounting system

Answer: A

Diff: 2

Terms: spoilage

Objective: 1

AACSB: Analytical skills

2) Unacceptable units of production that are discarded or sold for reduced prices are referred to as:

- A) reworked units
- B) spoilage
- C) scrap
- D) defective units

Answer: B

Diff: 1

Terms: spoilage

Objective: 1

AACSB: Ethical reasoning

3) Unacceptable units of production that are subsequently repaired and sold as acceptable finished goods are:

- A) reworked units
- B) spoilage
- C) scrap
- D) defective units

Answer: A

Diff: 1

Terms: rework

Objective: 1

AACSB: Reflective thinking

4) Costs of poor quality production include the:

- A) opportunity cost of the plant and workers
- B) effect on current customers
- C) effect on potential customers
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: spoilage

Objective: 1

AACSB: Reflective thinking

5) Material left over when making a product is referred to as:

- A) reworked units
- B) spoilage
- C) scrap
- D) defective units

Answer: C

Diff: 1

Terms: scrap

Objective: 1

AACSB: Reflective thinking

6) A production process which involves spoilage and rework occurs in:

- A) the manufacture of high precision tools
- B) semiconductor units
- C) the manufacture of clothing
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: spoilage, rework

Objective: 1

AACSB: Reflective thinking

7) Some amounts of spoilage, rework, or scrap are inherent in many production processes.

Answer: TRUE

Diff: 2

Terms: spoilage

Objective: 1

AACSB: Analytical skills

8) An item classified as spoilage has no value.

Answer: FALSE

Explanation: Although the item does not meet the specifications, it may be sold as a "second" or for its scrap value. It is not necessarily thrown out.

Diff: 2

Terms: spoilage

Objective: 1

AACSB: Analytical skills

9) Reworked goods are unacceptable units of production usually NOT capable of being repaired or converted into a salable product.

Answer: FALSE

Explanation: **Rework** is units of production that do not meet the specifications required by customers but that are subsequently repaired and sold as good finished units.

Diff: 2

Terms: rework

Objective: 1

AACSB: Ethical reasoning

10) Rework is finished production that is NOT in accordance with customer desires. The product is redone and sold as finished goods.

Answer: TRUE

Diff: 2

Terms: rework

Objective: 1

AACSB: Ethical reasoning

11) Scrap is residual material that results from manufacturing a product. and can have either a high or low sales value relative to the product with which it is associated.

Answer: FALSE

Explanation: **Scrap** is residual material that results from manufacturing a product. Examples are short lengths from woodworking operations, edges from plastic molding operations, and frayed cloth and end cuts from suit-making operations. Scrap can sometimes be sold for relatively small amounts.

Diff: 2

Terms: scrap

Objective: 1

AACSB: Analytical skills

12) Scrap and rework are considered to be the same thing by managerial accountants.

Answer: FALSE

Explanation: Scrap and rework are not considered to be the same thing by managerial accountants.

Diff: 2

Terms: scrap, rework

Objective: 1

AACSB: Analytical skills

13) Distinguish among spoilage, reworked units, and scrap. Give an example of each.

Answer: *Spoilage* refers to unacceptable units of production that are discarded or are sold for reduced prices. Both partially completed or fully completed units of output can be spoiled. Examples are defective clothes sold as seconds.

Reworked units are unacceptable units of production that are subsequently repaired and sold as acceptable finished goods. Defective units of product (such as pagers, computer disk drives, computers, and telephones) detected during production or immediately after production but before units are shipped to customers, can sometimes be reworked and sold as good products.

Scrap is material left over when making a product. It has low sales value compared with the sales value of the product. Examples are shavings and short lengths from woodworking operations and edges left over from plastic molding operations.

Diff: 1

Terms: spoilage, rework, scrap

Objective: 1

AACSB: Reflective thinking

14) For each of the following items identify whether it is spoilage, reworked units, or scrap.

- _____ a. Defective jeans sold as seconds
- _____ b. Shavings
- _____ c. Edges from plastic moldings
- _____ d. Carpets sold as seconds
- _____ e. Precision tools that are not built successfully to the necessary tolerance, but which can be successfully converted to a saleable product
- _____ f. Rock extracted as a result of mining processing
- _____ g. Complex defective products such as semiconductors

Answer:

- a. spoilage
- b. scrap
- c. scrap
- d. spoilage
- e. spoilage and rework
- f. scrap
- g. spoilage (usually too complex to rework)

Diff: 2

Terms: spoilage, rework, scrap

Objective: 1

AACSB: Ethical reasoning

Objective 18.2

1) Spoilage that is an inherent result of the particular production process and arises under efficient operating conditions is referred to as:

- A) ordinary spoilage
- B) normal spoilage
- C) abnormal spoilage
- D) None of these answers is correct.

Answer: B

Diff: 2

Terms: normal spoilage

Objective: 2

AACSB: Reflective thinking

2) Spoilage that should NOT arise under efficient operating conditions is referred to as:

- A) ordinary spoilage
- B) normal spoilage
- C) abnormal spoilage
- D) None of these answers is correct.

Answer: C

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Reflective thinking

3) Costs of normal spoilage are usually accounted for as:

- A) part of the cost of goods sold
- B) part of the cost of goods manufactured
- C) a separate line item in the income statement
- D) an asset in the balance sheet

Answer: B

Diff: 2

Terms: normal spoilage

Objective: 2

AACSB: Reflective thinking

4) Costs of abnormal spoilage are usually accounted for as:

- A) part of the cost of goods sold
- B) part of the cost of goods manufactured
- C) a separate line item in the income statement
- D) an asset in the balance sheet

Answer: C

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Reflective thinking

5) The loss from abnormal spoilage account would appear:

- A) on the balance sheet
- B) as a detailed item in the retained earnings schedule of the balance sheet
- C) as a detailed item on the income statement
- D) Either A or B is correct.

Answer: C

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Analytical skills

6) Normal spoilage should be computed using as the base the:

- A) total units completed
- B) total good units completed
- C) total actual units started into production
- D) None of these answers is correct.

Answer: B

Diff: 2

Terms: normal spoilage

Objective: 2

AACSB: Analytical skills

7) Companies that attempt to achieve zero defects in the manufacturing process treat spoilage as:

- A) scrap
- B) reworked units
- C) abnormal spoilage
- D) normal spoilage

Answer: C

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Ethical reasoning

8) Which one of the following conditions usually exists when comparing normal and abnormal spoilage to controllability?

- | <u>Normal Spoilage</u> | <u>Abnormal Spoilage</u> |
|------------------------|--------------------------|
| A) Controllable | Controllable |
| B) Controllable | Uncontrollable |
| C) Uncontrollable | Uncontrollable |
| D) Uncontrollable | Controllable |

Answer: D

Diff: 2

Terms: normal spoilage, abnormal spoilage

Objective: 2

AACSB: Reflective thinking

9) NOT counting spoiled units in the equivalent-unit calculation results in:

- A) lower cost per good unit.
- B) higher cost per good unit
- C) better management information
- D) Both A and C are correct.

Answer: B

Diff: 2

Terms: spoilage

Objective: 2

AACSB: Analytical skills

10) Recognition of spoiled units when computing output units:

- A) highlights the costs of normal spoilage to management
- B) distorts the accounting data
- C) focuses management's attention on reducing spoilage
- D) Both A and C are correct.

Answer: D

Diff: 2

Terms: spoilage, normal spoilage

Objective: 2

AACSB: Communication

11) The costs of normal spoilage are typically included as a component of the costs of good units manufactured.

Answer: TRUE

Diff: 2

Terms: normal spoilage

Objective: 2

AACSB: Analytical skills

12) Abnormal spoilage is spoilage inherent in a particular production process.

Answer: FALSE

Explanation: Normal spoilage is spoilage inherent in a particular production process.

Diff: 2

Terms: normal spoilage

Objective: 2

AACSB: Analytical skills

13) Abnormal spoilage is spoilage that should arise under efficient operating conditions.

Answer: FALSE

Explanation: Abnormal spoilage should not arise under efficient operating conditions.

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Analytical skills

14) Companies calculate the units of abnormal spoilage and record the cost in the Loss from Abnormal Spoilage account, which appears as a separate line item in the income statement.

Answer: TRUE

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Ethical reasoning

15) Spoilage can be considered either normal or abnormal.

Answer: TRUE

Diff: 2

Terms: spoilage

Objective: 2

AACSB: Ethical reasoning

16) Normal spoilage is spoilage that is NOT considered to be inherent in a production process.

Answer: FALSE

Explanation: Normal spoilage is spoilage that is considered to be inherent in a production process.

Diff: 1

Terms: normal spoilage

Objective: 2

AACSB: Analytical skills

17) Under efficient operating conditions, all spoilage is considered to be abnormal spoilage.

Answer: FALSE

Explanation: Normal spoilage is spoilage that is considered to be inherent in a production process. It arises even when the process is operated in an efficient manner.

Diff: 1

Terms: normal spoilage

Objective: 2

AACSB: Ethical reasoning

18) Normal spoilage rates are computed by dividing units of normal spoilage by total good units completed, NOT total actual units started in production.

Answer: TRUE

Diff: 2

Terms: normal spoilage

Objective: 2

AACSB: Analytical skills

19) A company might consider all spoilage to be abnormal if it wants to pay serious attention to the problem.

Answer: TRUE

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Ethical reasoning

20) Costs of abnormal spoilage are separately accounted for as losses of the period.

Answer: TRUE

Diff: 2

Terms: abnormal spoilage

Objective: 2

AACSB: Analytical skills

21) What are the objectives in accounting for spoilage?

Answer: The key objectives in accounting for spoilage are determining the magnitude of the costs of the spoilage and distinguishing between the costs of normal and abnormal spoilage. To effectively manage a company (or a division of a business), a manager needs information concerning how his business is performing. Spoilage is a cost which should be controlled and minimized. The dimensions of the cost must be known (the dollar amount of the spoilage). The accounting system must be capable of determining the dollar amount of the spoilage costs while distinguishing between normal and abnormal spoilage. This information must be reported and available to management on a timely basis.

Diff: 2

Terms: spoilage

Objective: 2

AACSB: Reflective thinking

22) The Joe's Pottery manufactures pottery products. All direct materials are included at the inception of the production process. For April, there was no beginning inventory in the processing plant. Direct materials totaled \$155,000 for the month. Work-in-process records revealed that 2,500 tons were started in April and that 1,500 tons were finished; 500 tons were spoiled as expected. Ending work-in-process units are complete in respect to direct materials costs. Spoilage is not detected until the process is complete.

Required:

- What is the cost per equivalent unit if spoiled units are recognized or ignored?
- What are the costs assigned to completed units when spoilage units are recognized or when they are not recognized?
- What are the costs transferred out if spoilage units are recognized or ignored?
- What are the amounts allocated to the work-in-process ending inventory when spoilage units are recognized or ignored?

Answer:

a.	<u>Recognized</u>	<u>Ignored</u>
Cost to account for	\$155,000	\$155,000
Divided by equivalent units	<u>2,500</u>	<u>2,000</u>
Cost per equivalent unit	<u>\$ 62</u>	<u>\$ 77.50</u>
b. Assigned to good units completed:		
(1,500 × \$62)	\$93,000	
(1,500 × \$77.50)		\$116,250
c. Transferred out Finished	\$93,000	\$116,250
Normal spoilage (500 × \$62)	<u>31,000</u>	<u>0</u>
Total	<u>\$124,000</u>	<u>\$116,250</u>
d. Ending work-in-process inventory:		
(500 × \$62)	\$ 31,000	
(500 × \$77.50)		\$38,750

Diff: 2

Terms: spoilage

Objective: 2

AACSB: Analytical skills

Objective 18.3

Answer the following questions using the information below:

Triboro Computer Systems, Inc., manufactures printer circuit cards. All direct materials are added at the inception of the production process. During January, the accounting department noted that there was no beginning inventory. Direct materials purchases totaled \$200,000 during the month. Work-in-process records revealed that 8,000 card units were started in January, 4,000 card units were complete, and 3,000 card units were spoiled as expected. Ending work-in-process card units are complete in respect to direct materials costs. Spoilage is not detected until the process is complete.

1) What are the respective direct material costs per equivalent unit, assuming spoiled units are recognized or ignored?

A) \$20.00; \$35.00

B) \$25.00; \$40.00

C) \$30.00; \$45.00

D) \$35.00; \$50.00

Answer: B

Explanation:

B)

	<u>Recognized</u>	Calculation for <u>Problem #</u>	<u>Ignored</u>
<i>Cost to account for:</i>	\$200,000		\$200,000
<i>Divided by equivalent units</i>	<u>8,000</u>		<u>5,000</u>
<i>Cost per equivalent unit</i>	<u>\$ 25.00</u>	(1)	<u>\$ 40.00</u>

Assigned to:

<i>Good units completed</i>			
(4,000 × \$25; \$40)	\$ 100,000		\$ 160,000
<i>Normal spoilage</i>			
(3,000 × \$25)	<u>75,000</u>		<u>0</u>
<i>Costs transferred out</i>	175,000	(2/3)	160,000
<i>WIP ending inventory (1,000 × \$25; \$40)</i>	<u>25,000</u>	(4)	<u>40,000</u>
<i>Cost accounted for:</i>	<u>\$200,000</u>		<u>\$200,000</u>

Diff: 2

Terms: spoilage

Objective: 3

AACSB: Analytical skills

2) What is the direct material cost assigned to good units completed when spoilage units are recognized?

A) \$100,000

B) \$200,000

C) \$160,000

D) \$175,000

Answer: D

Explanation:

D)

	Calculation for		
	<u>Recognized</u>	<u>Problem #</u>	<u>Ignored</u>
<i>Cost to account for:</i>	\$200,000		\$200,000
Divided by equivalent units	<u>8,000</u>		<u>5,000</u>
Cost per equivalent unit	<u>\$ 25.00</u>	(1)	<u>\$ 40.00</u>
<i>Assigned to:</i>			
Good units completed			
(4,000 × \$25; \$40)	\$ 100,000		\$ 160,000
Normal spoilage			
(3,000 × \$25)	<u>75,000</u>		<u>0</u>
Costs transferred out	175,000	(2/3)	160,000
WIP ending inventory (1,000 × \$25; \$40)	<u>25,000</u>	(4)	<u>40,000</u>
Cost accounted for:	<u>\$200,000</u>		<u>\$200,000</u>

Diff: 3

Terms: spoilage

Objective: 3

AACSB: Analytical skills

3) What is the cost transferred out assuming spoilage units are ignored?

A) \$175,000

B) \$160,000

C) \$100,000

D) \$155,000

Answer: B

Explanation:

B)

	<u>Recognized</u>	Calculation for <u>Problem #</u>	<u>Ignored</u>
<i>Cost to account for:</i>	\$200,000		\$200,000
Divided by equivalent units	<u>8,000</u>		<u>5,000</u>
Cost per equivalent unit	<u>\$ 25.00</u>	(1)	<u>\$ 40.00</u>

Assigned to:

Good units completed (4,000 × \$25; \$40)	\$ 100,000		\$ 160,000
Normal spoilage (3,000 × \$25)	<u>75,000</u>		<u>0</u>

Costs transferred out	175,000	(2/3)	160,000
WIP ending inventory (1,000 × \$25; \$40)	<u>25,000</u>	(4)	<u>40,000</u>

Cost accounted for:	<u>\$200,000</u>		<u>\$200,000</u>
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Diff: 3

Terms: spoilage

Objective: 3

AACSB: Analytical skills

4) What are the amounts allocated to the work-in-process ending inventory assuming spoilage units are recognized and ignored, respectively?

A) \$40,000; \$49,000

B) \$60,000; \$68,500

C) \$25,000; \$40,000

D) \$75,000; \$80,000

Answer: C

Explanation:

C)

	<u>Recognized</u>	Calculation for <u>Problem #</u>	<u>Ignored</u>
<i>Cost to account for:</i>	\$200,000		\$200,000
Divided by equivalent units	<u>8,000</u>		<u>5,000</u>
Cost per equivalent unit	<u>\$ 25.00</u>	(1)	<u>\$ 40.00</u>
<i>Assigned to:</i>			
Good units completed			
(4,000 × \$25; \$40)	\$ 100,000		\$ 160,000
Normal spoilage			
(3,000 × \$25)	<u>75,000</u>		<u>0</u>
Costs transferred out	175,000	(2/3)	160,000
WIP ending inventory (1,000 × \$25; \$40)	<u>25,000</u>	(4)	<u>40,000</u>
Cost accounted for:	<u>\$200,000</u>		<u>\$200,000</u>

Diff: 3

Terms: spoilage

Objective: 3

AACSB: Analytical skills

5) Spoilage costs allocated to ending work in process are larger by which method and by how much?

- A) when spoiled units are recognized, by \$5,000
- B) when spoiled units are recognized, by \$8,500
- C) when spoiled units are ignored, by \$15,000
- D) when spoiled units are recognized, by \$15,000

Answer: C

Explanation:

C)

	Calculation for		
	<u>Recognized</u>	<u>Problem #</u>	<u>Ignored</u>
<i>Cost to account for:</i>	\$200,000		\$200,000
Divided by equivalent units	<u>8,000</u>		<u>5,000</u>
Cost per equivalent unit	<u>\$ 25.00</u>	(1)	<u>\$ 40.00</u>
<i>Assigned to:</i>			
Good units completed			
(4,000 × \$25; \$40)	\$ 100,000		\$ 160,000
Normal spoilage			
(3,000 × \$25)	<u>75,000</u>		<u>0</u>
Costs transferred out	175,000	(2/3)	160,000
WIP ending inventory (1,000 × \$25; \$40)	<u>25,000</u>	(4)	<u>40,000</u>
Cost accounted for:	<u>\$200,000</u>		<u>\$200,000</u>

$\$40,000 - \$25,000 = \$15,000$ or $\$15.00 \times 1,000 \text{ units} = 15,000$

Diff: 3

Terms: spoilage

Objective: 3

AACSB: Reflective thinking

Answer the following questions using the information below:

Craft Concept manufactures small tables in its Processing Department. Direct materials are added at the initiation of the production cycle and must be bundled in single kits for each unit. Conversion costs are incurred evenly throughout the production cycle. Before inspection, some units are spoiled due to nondetectable materials defects. Inspection occurs when units are 50% converted. Spoiled units generally constitute 5% of the good units. Data for December 2012 are as follows:

WIP, beginning inventory 12/1/2012	20,000 units
Direct materials (100% complete)	
Conversion costs (75% complete)	
Started during December	80,000 units
Completed and transferred out 12/31/2012	76,800 units
WIP, ending inventory 12/31/2012	16,000 units
Direct materials (100% complete)	
Conversion costs (65% complete)	

Costs for December:

WIP, beginning Inventory:	
Direct materials	\$ 100,000
Conversion costs	60,000
Direct materials added	200,000
Conversion costs added	280,000

6) What is the number of total spoiled units?

- A) 13,200 units
- B) 4,000 units
- C) 5,400 units
- D) 7,200 units

Answer: D

Explanation: $D) \text{ Spoiled units} = (20,000 \text{ units} + 80,000) - (76,800 \text{ units} + 16,000) = 7,200 \text{ units}$

Diff: 2

Terms: spoilage

Objective: 3

AACSB: Analytical skills

7) Normal spoilage totals:

- A) 3,200 units
- B) 4,000 units
- C) 3,840 units
- D) 5,400 units

Answer: C

Explanation: $C) \text{ Normal spoilage} = 5\% \times 76,800 \text{ units} = 3,840 \text{ spoiled units}$

Diff: 2

Terms: normal spoilage

Objective: 3

AACSB: Analytical skills

8) Abnormal spoilage totals:

A) 3,200 units

B) 4,000 units

C) 3,360 units

D) 3,840 units

Answer: C

Explanation: C) Spoiled units = (20,000 units + 80,000) - (76,800 units + 16,000) = 7,200 units

Normal spoilage = $5\% \times 76,800 \text{ units} = 3,840 \text{ spoiled units}$

Abnormal spoilage = 7,200 units - 3,840 units = 3,360 units

Diff: 3

Terms: abnormal spoilage

Objective: 3

AACSB: Analytical skills

9) What is the total cost per equivalent unit using the weighted-average method of process costing?

A) \$3.00

B) \$3.60

C) \$6.60

D) \$4.60

Answer: C

Explanation: C)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory	\$ 100,000	\$ 60,000
Costs added during period	<u>200,000</u>	<u>280,000</u>
Total cost to account for	300,000	340,000
Divide by equivalent units	<u>100,000</u>	<u>94,400</u>
Equivalent-unit costs	<u>\$ 3.00</u>	<u>\$ 3.60</u>

Total cost per equivalent unit = \$3.00 + \$3.60 = \$6.60

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

10) What cost is allocated to abnormal spoilage using the weighted-average process-costing method?

- A) \$ 0
- B) \$ 14,720
- C) \$22,176
- D) \$32,800

Answer: C

Explanation: C) Spoiled units = (20,000 units + 80,000) - (76,800 units + 16,000) = 7,200 units

Normal spoilage = 5% × 76,800 units = 3,840 spoiled units

Abnormal spoilage = 7,200 units - 3,840 units = 3,360 units

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory	\$ 100,000	\$ 60,000
Costs added during period	<u>200,000</u>	<u>280,000</u>
Total cost to account for	300,000	340,000
Divide by equivalent units	<u>100,000</u>	<u>94,400</u>
Equivalent-unit costs	<u>\$ 3.00</u>	<u>\$ 3.60</u>

Total cost per equivalent unit = \$3.00 + \$3.60 = \$6.60

3,360 units × \$6.60 = \$22,176

Diff: 2

Terms: abnormal spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

11) What are the amounts of direct materials and conversion costs assigned to ending work in process using the weighted-average process-costing method?

- A) \$37,440; \$48,000
- B) \$45,800; \$39,640
- C) \$48,000; \$37,440
- D) \$57,120; \$28,320

Answer: C

Explanation: C)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory	\$ 100,000	\$ 60,000
Costs added during period	<u>200,000</u>	<u>280,000</u>
Total cost to account for	300,000	340,000
Divide by equivalent units	<u>100,000</u>	<u>94,400</u>
Equivalent-unit costs	<u>\$ 3.00</u>	<u>\$ 3.60</u>

Total cost per equivalent unit = \$3.00 + \$3.60 = \$6.60

Direct materials = 16,000 units × \$3.00 = \$48,000

Conversion costs = 10,400 units × \$3.60 = \$37,440

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

Answer the following questions using the information below:

Fish Fillet Incorporated obtains fish and then processes them into frozen fillets and then prepares the frozen fish fillets for distribution to its retail sales department. Direct materials are added at the initiation of the cycle. Conversion costs are incurred evenly throughout the production cycle. Before inspection, some fillets are spoiled due to nondetectable defects. Inspection occurs when units are 50% converted. Spoiled fillets generally constitute 3.5% of the good fillets. Data for April 2012 are as follows:

WIP, beginning inventory 4/1/2012	80,000 fillets
Direct materials (100% complete)	
Conversion costs (50% complete)	
Started during April	150,000 fillets
Completed and transferred out 4/31/2012	200,000 fillets
WIP, ending inventory 4/31/2012	16,000 fillets
Direct materials (100% complete)	
Conversion costs (20% complete)	

Costs for April:

WIP, beginning Inventory:	
Direct materials	\$ 110,000
Conversion costs	80,000
Direct materials added	290,200
Conversion costs added	376,130

12) What is the number of total spoiled units?

- A) 16,000 units
- B) 10,000 units
- C) 50,000 units
- D) 14,000 units

Answer: D

Diff: 2

Terms: spoilage

Objective: 3

AACSB: Analytical skills

13) Normal spoilage totals:

- A) 7,000 units
- B) 0 units
- C) 16,000 units
- D) 14,000 units

Answer: A

Explanation: A) Normal spoilage = $3.5\% \times 200,000 \text{ units} = 7,000 \text{ spoiled units}$

Diff: 2

Terms: normal spoilage

Objective: 3

AACSB: Analytical skills

14) Abnormal spoilage totals:

- A) 7,000 units
- B) 0 units
- C) 16,000 units
- D) 14,000 units

Answer: A

Explanation: A) Spoiled units = (80,000 units + 150,000) - (200,000 units + 16,000 units) = 14,000 units

Normal spoilage = $3.5\% \times 200,000 \text{ units} = 7,000 \text{ spoiled units}$

Abnormal spoilage = 14,000 units - 7,000 units = 7,000 units

Diff: 3

Terms: abnormal spoilage

Objective: 3

AACSB: Analytical skills

15) What is the total cost per equivalent unit using the weighted-average method of process costing?

- A) \$4.00
- B) \$1.74
- C) \$2.10
- D) \$3.84

Answer: D

Explanation: D)	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory	\$ 110,000	\$ 80,000
Costs added during period	<u>290,200</u>	<u>376,130</u>
Total cost to account for	400,200	456,130
Divide by equivalent units	<u>230,000</u>	<u>217,200</u>
Equivalent-unit costs	<u>\$ 1.74</u>	<u>\$ 2.10</u>

Total cost per equivalent unit = \$1.74 + \$2.10 = \$3.84

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

16) What cost is allocated to abnormal spoilage using the weighted-average process-costing method?

- A) \$ 0
- B) \$26,880
- C) \$53,760
- D) \$29,000

Answer: B

Explanation: B) Spoiled units = (80,000 units + 150,000) - (200,000 units + 16,000 units) 14,000 units

Normal spoilage = $3.5\% \times 200,000 \text{ units} = 7,000 \text{ spoiled units}$

Abnormal spoilage = 14,000 units - 7,000 units = 7,000 units

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory	\$ 110,000	\$ 80,000
Costs added during period	<u>290,200</u>	<u>376,130</u>
Total cost to account for	400,200	456,130
Divide by equivalent units	<u>230,000</u>	<u>217,200</u>
Equivalent-unit costs	<u>\$ 1.74</u>	<u>\$ 2.10</u>

Total cost per equivalent unit = $\$1.74 + \$2.10 = \$3.84$

7,000 units $\times \$3.84 = \$26,880$

Diff: 2

Terms: abnormal spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

17) What are the amounts of direct materials and conversion costs assigned to ending work in process using the weighted-average process-costing method?

- A) \$6,720; \$27,840
- B) \$27,840 \$6,720
- C) \$27,840; \$33,600
- D) \$33,600; \$27,840

Answer: B

Explanation: B)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory	\$ 110,000	\$ 80,000
Costs added during period	<u>290,200</u>	<u>376,130</u>
Total cost to account for	400,200	456,130
Divide by equivalent units	<u>230,000</u>	<u>217,200</u>
Equivalent-unit costs	<u>\$ 1.74</u>	<u>\$ 2.10</u>

Total cost per equivalent unit = $\$1.74 + \$2.10 = \$3.84$

Direct materials = 16,000 units $\times \$1.74 = \$27,840$

Conversion costs = 16,000 units $\times 20\% \times \$2.10 = \$6,720$

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

18) The cost per good unit in the weighted-average method is equal to the:

- A) total cost of direct materials and conversion costs per equivalent unit, plus a share of normal spoilage
- B) sum of the costs per equivalent unit of direct materials, and conversion costs
- C) total costs divided by total equivalent units
- D) None of these answers is correct.

Answer: A

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Reflective thinking

19) Under the FIFO method, all spoilage costs are assumed to be related to the units:

- A) in beginning inventory, plus the units completed during the period
- B) completed during the period
- C) in ending inventory
- D) in both beginning and ending inventory plus the units completed during the period

Answer: B

Diff: 2

Terms: spoilage, first-in, first-out method

Objective: 3

AACSB: Ethical reasoning

Answer the following questions using the information below:

Cartwright Custom Carpentry manufactures chairs in its Processing Department. Direct materials are included at the inception of the production cycle and must be bundled in single kits for each unit. Conversion costs are incurred evenly throughout the production cycle. Inspection takes place as units are placed into production. After inspection, some units are spoiled due to nondetectable material defects. Spoiled units generally constitute 3% of the good units. Data provided for March 20X5 are as follows:

WIP, beginning inventory 3/1/20X5 30,000 units
 Direct materials (100% complete)
 Conversion costs (89.5% complete)

Started during March 80,000 units
Completed and transferred out 86,000 units

WIP, ending inventory 3/31/20X5 20,000 units
 Direct materials (100% complete)
 Conversion costs (75% complete)

Costs:

 WIP, beginning inventory:
 Direct materials \$ 70,000
 Conversion costs 40,000
 Direct materials added 160,000
 Conversion costs added 120,000

20) What are the normal and abnormal spoilage units, respectively, for March when using FIFO?

- A) 2,580 units; 1,420 units
- B) 1,950 units; 1,390 units
- C) 1,690 units; 1,050 units
- D) 1,420 units; 2,000 units

Answer: A

Explanation: A) Normal spoilage = $3\% \times 86,000 \text{ units} = 2,580 \text{ spoiled units}$

Abnormal spoilage = $(30,000 \text{ units} + 80,000) - (86,000 \text{ units} + 20,000) - 2,580 = 1,420 \text{ units}$

Diff: 3

Terms: normal spoilage, abnormal spoilage

Objective: 3

AACSB: Analytical skills

21) What costs would be associated with normal and abnormal spoilage, respectively, using the FIFO method of process costing?

A) \$5,890.64; \$9,133.20

B) \$5,890.64; \$5,826.00

C) \$6,469.64; \$7,690.36

D) \$9,133.20; \$5,026.80

Answer: D

Explanation: D)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$160,000</u>	<u>\$ 120,000</u>
Total cost to account for	160,000	120,000
Divided by equivalent units	<u>80,000</u> *	<u>78,150</u> **
Equivalent-unit costs	<u>\$ 2.00</u>	<u>\$ 1.54</u>

$(56,000 + 2,580 + 1,420 + 20,000) = 80,000$ units

Normal spoilage = $3\% \times 86,000$ units = 2,580 spoiled units

Abnormal spoilage = $(30,000 \text{ units} + 80,000) - (86,000 \text{ units} + 20,000) - 2,580 = 1,420$ units

$(3,150 + 56,000 + 2,580 + 1,420 + 15,000) = 78,150$ units

Normal Spoilage = $2,580 \text{ units} \times \$3.54 = \$9,133.20$

Abnormal Spoilage = $1,420 \text{ units} \times \$3.54 = \$5,026.80$

Diff: 3

Terms: first-in, first-out method, normal spoilage, abnormal spoilage

Objective: 3

AACSB: Analytical skills

22) What costs are allocated to the ending work-in-process inventory for direct materials and conversion costs, respectively, using the FIFO method of process costing?

A) \$38,250; \$24,850

B) \$40,000; \$23,100

C) \$40,000; \$21,590

D) \$49,500; \$13,600

Answer: B

Explanation: B)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$160,000</u>	<u>\$ 120,000</u>
Total cost to account for	160,000	120,000
Divided by equivalent units	<u>80,000</u> *	<u>78,150</u> **
Equivalent-unit costs	<u>\$ 2.00</u>	<u>\$ 1.54</u>

$(56,000 + 2,580 + 1,420 + 20,000) = 80,000$ units

Normal spoilage = $3\% \times 86,000$ units = 2,580 spoiled units

Abnormal spoilage = $(30,000 \text{ units} + 80,000) - (86,000 \text{ units} + 20,000) - 2,580 = 1,420$ units

$(3,150 + 56,000 + 2,580 + 1,420 + 15,000) = 78,150$ units

Normal Spoilage = $2,580 \text{ units} \times \$3.54 = \$9,133.20$

Abnormal Spoilage = $1,420 \text{ units} \times \$3.54 = \$5,026.80$

Direct materials: $20,000 \text{ units} \times \$2.00 = \$40,000$

Conversion costs: $15,000 \text{ units} \times \$1.54 = \$23,100$

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Analytical skills

23) Which of the following journal entries correctly represents the transfer of completed goods for the current period using the FIFO method of process costing?

- A) Finished Goods 10,560.28
 Loss from Spoilage 10,560.28
- B) Loss from Spoilage 5,026.80
 Finished Goods 5,026.80
- C) Finished Goods 327,251.00
 Work in Process 327,251.00
- D) Finished Goods 401,700.00
 Work in Process 401,700.00

Answer: C

Explanation: C)	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$160,000</u>	<u>\$ 120,000</u>
Total cost to account for	160,000	120,000
Divided by equivalent units	<u>80,000</u> *	<u>78,150</u> **
Equivalent-unit costs	<u>\$ 2.00</u>	<u>\$ 1.54</u>

$$(56,000 + 2,580 + 1,420 + 20,000) = 80,000 \text{ units}$$

$$\text{Normal spoilage} = 3\% \times 86,000 \text{ units} = 2,580 \text{ spoiled units}$$

$$\text{Abnormal spoilage} = (30,000 \text{ units} + 80,000) - (86,000 \text{ units} + 20,000) - 2,580 = 1,420 \text{ units}$$

$$(3,150 + 56,000 + 2,580 + 1,420 + 15,000) = 78,150 \text{ units}$$

$$\text{Normal Spoilage} = 2,580 \text{ units} \times \$3.54 = \$9,133.20$$

$$\text{Abnormal Spoilage} = 1,420 \text{ units} \times \$3.54 = \$5,026.80$$

$$\text{Direct materials: } 20,000 \text{ units} \times \$2.00 = \$40,000$$

$$\text{Conversion costs: } 15,000 \text{ units} \times \$1.54 = \$23,100$$

Abnormal spoilage	\$ 5,026.80
Beginning WIP completed	110,000.00
Costs added	4,851.00
Started and completed	198,240.00
Normal spoilage	<u>9,133.20</u>
Total cost transferred out	<u>\$327,251.00</u>

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Reflective thinking

Answer the following questions using the information below:

Samantha's Office Supplies manufactures desk organizers in its Processing Department. Direct materials are included at the inception of the production cycle and must be bundled in single kits for each unit. Conversion costs are incurred evenly throughout the production cycle. Inspection takes place as units are placed into production. After inspection, some units are spoiled due to nondetectable material defects. Spoiled units generally constitute 4% of the good units. Data provided for February 2012 are as follows:

WIP, beginning inventory 2/1/2012	50,000 units
Direct materials (100% complete)	
Conversion costs (50% complete)	

Started during February	164,000 units
Completed and transferred out	162,000 units

WIP, ending inventory 2/29/2012	30,000 units
Direct materials (100% complete)	
Conversion costs (25% complete)	

Costs:

WIP, beginning inventory:	
Direct materials	\$ 300,000
Conversion costs	88,000
Direct materials added	419,832
Conversion costs added	219,786

24) What are the normal and abnormal spoilage units, respectively, for February when using FIFO?

- A) 2,800 units; 2,960 units
- B) 6,560 units; 3,280 units
- C) 6,480 units; 15,520 units
- D) 6,480 units; 22,000 units

Answer: C

Explanation: C) Normal spoilage = $4\% \times 162,000 \text{ units} = 6,480 \text{ spoiled units}$

Abnormal spoilage = $(50,000 + 164,000 - 162,000 - 30,000 - 6,480) = 15,520 \text{ units}$

Diff: 3

Terms: normal spoilage, abnormal spoilage

Objective: 3

AACSB: Analytical skills

25) What costs would be associated with normal and abnormal spoilage, respectively, using the FIFO method of process costing?

A) \$25,142; \$60,216

B) \$60,216; \$25,142

C) \$2,514; \$6,020

D) \$16,000; \$8,000

Answer: A

Explanation: A)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$419,832</u>	<u>\$ 219,876</u>
Total cost to account for	419,832	219,876
Divided by equivalent units	<u>164,000</u> *	<u>166,500</u> **
Equivalent-unit costs	<u>\$ 2.56</u>	<u>\$ 1.32</u>

Total Cost per equivalent unit = \$2.56 + \$1.32 = \$3.88

Normal spoilage = 4% × 162,000 units = 6,480 spoiled units

Abnormal spoilage = (50,000 units + 164,000) - (162,000 units + 30,000) - 6,480 = 15,520 units

* (112,000 + 6,480 + 15,520 + 30,000) = 164,000 units

** (.5 × 50,000 + 112,000 + 6,480 + 15,520 + .25 × 30,000) = 166,500 units

Normal Spoilage = 6,480 units × \$3.88 = \$25,142

Abnormal Spoilage = 7,760 units × \$3.88 = \$60,216

Diff: 3

Terms: first-in, first-out method, normal spoilage, abnormal spoilage

Objective: 3

AACSB: Analytical skills

26) What costs are allocated to the ending work-in-process inventory for direct materials and conversion costs, respectively, using the FIFO method of process costing?

- A) \$76,500; \$9,700
- B) \$80,000; \$46,200
- C) \$76,800; \$9,900
- D) \$99,000; \$76,800

Answer: C

Explanation: C)	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$419,832</u>	<u>\$ 219,876</u>
Total cost to account for	419,832	219,876
Divided by equivalent units	<u>164,000</u> *	<u>166,500</u> **
Equivalent-unit costs	<u>\$ 2.56</u>	<u>\$ 1.32</u>

Total Cost per equivalent unit = \$2.56 + \$1.32 = \$3.88

Direct materials: 30,000 units × \$2.56 = \$76,800

Conversion costs: 30,000 units × .25 × \$1.32 = \$9,900

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Analytical skills

27) What are the direct material and conversion costs of all the units that were initially in the beginning work-in-process inventory and were subsequently shipped? Take into account the costs related to the completion of the conversion of the units during the month. Use the FIFO method of process costing.?

A) \$76,500; \$49,700

B) \$0; \$33,000

C) \$80,000; \$43,180

D) \$99,000; \$27,200

Answer: B

Explanation: B)	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$419,832</u>	<u>\$ 219,876</u>
Total cost to account for	419,832	219,876
Divided by equivalent units	<u>164,000</u> *	<u>166,500</u> **
Equivalent-unit costs	<u>\$ 2.56</u>	<u>\$ 1.32</u>

Total Cost per equivalent unit = \$2.56 + \$1.32 = \$3.88

Normal spoilage = 4% × 162,000 units = 6,480 spoiled units

Abnormal spoilage = (50,000 units + 164,000) - (162,000 units + 30,000) - 6,480 = 15,520 units

* (112,000 + 6,480 + 15,520 + 30,000) = 164,000 units

** (.5 × 50,000 + 112,000 + 6,480 + 15,520 + .25 × 30,000) = 166,500 units

Normal Spoilage = 6,480 units × \$3.88 = \$25,142

Abnormal Spoilage = 15,520 units × \$3.88 = \$60,216

Beginning WIP:

Direct Material cost = \$0

Conversion Cost = 50,000 units × 50% × \$1.32 = \$33,000

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Analytical skills

28) What are the total costs of all the units that were initially in the beginning work-in-process inventory and were subsequently shipped? Take into account the costs related to the completion of the conversion of the units during the month. Use the FIFO method of process costing.

- A) \$388,000
- B) \$33,000
- C) \$421,000
- D) \$ 194,000

Answer: C

Explanation: C)	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$419,832</u>	<u>\$ 219,876</u>
Total cost to account for	419,832	219,876
Divided by equivalent units	<u>164,000</u> *	<u>166,500</u> **
Equivalent-unit costs	<u>\$ 2.56</u>	<u>\$ 1.32</u>

Total Cost per equivalent unit = \$2.56 + \$1.32 = \$3.88

Normal spoilage = 4% × 162,000 units = 6,480 spoiled units

Abnormal spoilage = (50,000 units + 164,000) - (162,000 units + 30,000) - 6,480 = 15,520 units

* (112,000 + 6,480 + 15,520 + 30,000) = 164,000 units

** (.5 × 50,000 + 112,000 + 6,480 + 15,520 + .25 × 30,000) = 166,500 units

Costs related to Beginning WIP:

Costs Carried Forward from Previous period = \$300,000 + \$88,000 = \$388,000

Additional Conversion Cost = 50,000 units × 50% \$1.32 = \$33,000

Total = \$421,000

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Analytical skills

29) What are the total costs of all the units that were started during February and subsequently shipped before the end of the period?

A) \$628,560

B) \$434,560

C) \$636,320

D) \$307,000

Answer: B

Explanation: B)

	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	<u>\$419,832</u>	<u>\$ 219,876</u>
Total cost to account for	419,832	219,876
Divided by equivalent units	<u>164,000</u> *	<u>166,500</u> **
Equivalent-unit costs	<u>\$ 2.56</u>	<u>\$ 1.32</u>

Total Cost per equivalent unit = \$2.56 + \$1.32 = \$3.88

Normal spoilage = $4\% \times 162,000$ units = 6,480 spoiled units

Abnormal spoilage = (50,000 units + 164,000) - (162,000 units + 30,000) - 6,480 = 15,520 units

* $(112,000 + 6,480 + 15,520 + 30,000) = 164,000$ units

** $(.5 \times 50,000 + 112,000 + 6,480 + 15,520 + .25 \times 30,000) = 166,500$ units

Costs related to units that were started and completed in the period:

Started and Completed = Shipped Units less beginning Inventory
= 162,000 - 50,000 = 112,000 units

Cost = 112,000 units \times \$3.88 = \$434,560

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Analytical skills

A) Finished Goods	940,913	
Work in Process		940,913
B) Loss from Spoilage	25,142	
Finished Goods		25,142
C) Finished Goods	434,560	
Work in Process		434,560
D) Finished Goods	628,560	
Work in Process		628,560

Explanation: C)	<u>Direct Materials</u>	<u>Conversion Costs</u>
WIP, beginning inventory		
Costs added during period	\$419,832	\$ 219,876
Total cost to account for	419,832	219,876
Divided by equivalent units	<u>164,000</u> *	<u>166,500</u> **
Equivalent-unit costs	\$ 2.56	\$ 1.32

$$\text{Abnormal spoilage} = (50,000 \text{ units} + 164,000) - (162,000 \text{ units} + 30,000) - 6,480 = 15,520 \text{ units}$$
$$^{**} (.5 \times 50,000 + 112,000 + 6,480 + 15,520 + .25 \times 30,000) = 166,500 \text{ units}$$

Total = \$421,000

$$= 162,000 - 50,000 = 112,000 \text{ units}$$
$$= \$940,913$$

AACSB: Reflective thinking

31) The first step in the five-step procedure for process costing with spoilage is to compute the output in terms of equivalent units.

Answer: FALSE

Explanation: The first step in the five-step procedure for process costing with spoilage is to summarize the flow of physical units.

Diff: 2

Terms: process costing, spoilage

Objective: 3

AACSB: Analytical skills

32) The last step in the five-step procedure for process costing with spoilage is to summarize total costs to account for.

Answer: FALSE

Explanation: The last step in the five-step procedure for process costing with spoilage is to assign total costs to units completed, to spoiled units, and to units in ending work in process.

Diff: 2

Terms: process costing, spoilage

Objective: 3

AACSB: Analytical skills

33) Counting spoiled units as part of output units in a process-costing system usually results in a higher cost per unit.

Answer: FALSE

Explanation: Counting spoiled units usually results in a lower cost per unit.

Diff: 3

Terms: spoilage

Objective: 3

AACSB: Analytical skills

34) Costs in beginning inventory are pooled with costs in the current period when determining the costs of good units under the weighted-average method of process costing.

Answer: TRUE

Diff: 2

Terms: weighted-average method

Objective: 3

AACSB: Analytical skills

35) Under the weighted-average method, the costs of normal spoilage are added to the costs of their related good units. Hence, the cost per good unit completed and transferred out equals the total costs transferred out divided by the number of good units produced.

Answer: TRUE

Diff: 3

Terms: weighted-average method, normal spoilage

Objective: 3

AACSB: Analytical skills

36) Spoilage is typically assumed to occur at the stage of completion where inspection takes place.

Answer: TRUE

Diff: 2

Terms: inspection point

Objective: 3

AACSB: Ethical reasoning

37) Spoilage and rework costs are thoroughly captured in the accounting system.

Answer: FALSE

Explanation: The actual costs of spoilage and rework are often greater than the costs recorded in the accounting system because the opportunity costs of disruption of the production line, storage, and lost contribution margin are not recorded in accounting systems.

Diff: 2

Terms: spoilage, rework

Objective: 3

AACSB: Analytical skills

38) Under the FIFO method, all spoilage costs are assumed to be related to the units completed during this period using the unit costs of the current period.

Answer: TRUE

Diff: 3

Terms: first-in, first-out method, spoilage

Objective: 3

AACSB: Analytical skills

39) When spoiled goods have a disposal value, the net cost of spoilage is computed by adding the disposal value to the costs of the spoiled goods accumulated to the inspection point.

Answer: FALSE

Explanation: The net cost of spoilage is computed by subtracting the disposal value from the costs of the spoiled goods accumulated to the inspection point.

Diff: 2

Terms: spoilage

Objective: 3

AACSB: Analytical skills

40) To simplify calculations under FIFO, spoiled units are accounted for as if they were started in the current period.

Answer: TRUE

Diff: 2

Terms: spoilage

Objective: 3

AACSB: Analytical skills

41) Normal spoilage costs are usually deducted from the costs of good units.

Answer: FALSE

Explanation: Normal spoilage is usually added to the cost of the good units.

Diff: 2

Terms: normal spoilage

Objective: 3

AACSB: Analytical skills

42) Identify the appropriate order of the following steps in the procedure for process costing with spoilage.

- a. summarize total costs to account for
- b. assign total costs to units completed, to spoiled units, and to units in ending inventory
- c. summarize the flow of physical units
- d. compute output in terms of equivalent units
- e. compute cost per equivalent unit

Step 1 _____

Step 2 _____

Step 3 _____

Step 4 _____

Step 5 _____

Answer:

Step 1 c. summarize the flow of physical units

Step 2 d. compute output in terms of equivalent units

Step 3 a. summarize total costs to account for

Step 4 e. compute cost per equivalent unit

Step 5 b. assign total costs to units completed, to spoiled units, and to units in ending inventory

Diff: 2

Terms: process costing, spoilage

Objective: 3

AACSB: Reflective thinking

43) Endicott Shoes manufactures shoes. All direct materials are included at the inception of the production process. For March, there were 1,400 units in beginning inventory with a direct material cost of \$700. Direct materials totaled \$15,000 for the month. Work-in-process records revealed that 35,000 units were started in March and that 30,000 were finished. Normal spoilage of 2% of units finished was incurred. Ending work-in-process units are complete in respect to direct materials costs. Spoilage is not detected until the process is complete. Endicott uses the weighted-average method.

Required:

- What are the direct materials costs assigned to completed good units when spoilage units are recognized or when they are ignored?
- What are the direct material amounts allocated to the work-in-process ending inventory when spoilage units are recognized or ignored?

Answer:

- Equivalent units (spoilage recognized) = $1,400 + 35,000 = 36,400$

$$\begin{aligned} \text{Equivalent units (spoilage ignored)} &= 1,400 + 35,000 - (30,000 \times 0.02) \\ &= 35,800 \end{aligned}$$

<u>Recognized</u>	<u>Ignored</u>	
Cost to account for:		
Beginning work in process	\$ 700	\$ 700
Current period	<u>15,000</u>	<u>15,000</u>
Total costs to account for	\$15,700	\$15,700
Divided by equivalent units	<u>36,400</u>	<u>35,800</u>
Cost per equivalent unit	<u>\$ 0.431</u>	<u>\$ 0.439</u>
Assigned to good units:		
(29,400 × \$0.431)	\$12,671	
(29,400 × \$0.439)		\$12,907
b. Ending work in process:		
(6,400 × \$0.431)	\$ 2,758	
(6,400 × \$0.439)		\$ 2,810

Diff: 3

Terms: spoilage

Objective: 3

AACSB: Analytical skills

44) Viking Sports is a manufacturer of sportswear. It produces all of its products in one department. The information for the current month is as follows:

Beginning work in process	20,000 units
Units started	40,000 units
Units completed	50,000 units
Ending work in process	8,000 units
Spoilage	2,000 units
Beginning work-in-process direct materials	\$12,000
Beginning work-in-process conversion	\$ 4,000
Direct materials added during month	\$60,000
Direct manufacturing labor during month	\$20,000

Beginning work in process was half complete as to conversion. Direct materials are added at the beginning of the process. Factory overhead is applied at a rate equal to 50% of direct manufacturing labor. Ending work in process was 60% complete. All spoilage is normal and is detected at end of the process.

Required:

Prepare a production cost worksheet if spoilage is recognized and the weighted-average method is used.

Answer: PRODUCTION COST WORKSHEET

<u>Flow of Production</u>	<u>Physical units</u>	<u>Direct materials</u>	<u>Conversion</u>
Work in process, beginning	20,000		
Started during period	<u>40,000</u>		
To account for	<u>60,000</u>		
Good units completed	50,000	50,000	50,000
Normal spoilage	2,000	2,000	2,000
Work in process, ending	<u>8,000</u>	<u>8,000</u>	<u>4,800</u>
Accounted for	<u>60,000</u>	<u>60,000</u>	<u>56,800</u>

<u>Costs</u>	<u>Totals</u>	<u>Direct Materials</u>	<u>Conversion</u>
Work in process, beginning	\$ 16,000	\$12,000	\$ 4,000
Costs added during period	<u>90,000</u>	<u>60,000</u>	<u>30,000</u>
Total costs to account for	106,000	72,000	34,000
Divided by equivalent units		<u>60,000</u>	<u>56,800</u>
Equivalent unit costs	<u>\$ 1.80</u>	<u>\$ 1.20</u>	<u>\$ 0.60</u>

<u>Assignment of costs</u>		
Costs transferred out (50,000 × \$1.80)		\$ 90,000
Normal spoilage (2,000 × \$1.80)		3,600
Work in process, ending		
Direct materials (8,000 × \$1.20)		9,600
Conversion (8,000 × \$0.60 × 0.60)		<u>2,880</u>
Costs accounted for		<u>\$106,080</u>
(Differences due to rounding)		

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

45) Silver Spoon Incorporated is a manufacturer of kitchen utensils. It produces all of its products in one department. The information for the current month is as follows:

Beginning work in process	37,500 units
Units started	55,000 units
Units completed	75,000 units
Ending work in process	14,500 units
Spoilage	3,000 units

Beginning work-in-process direct materials	\$25,000
Beginning work-in-process conversion	\$ 10,000
Direct materials added during month	\$113,750
Direct manufacturing labor during month	\$40,020

Beginning work in process was 25% complete as to conversion. Direct materials are added at the beginning of the process. Factory overhead is applied at a rate equal to 37.5% of direct manufacturing labor. Ending work in process was 60% complete. All spoilage is normal and is detected at the end of the process.

Required:

Prepare a production cost worksheet if spoilage is recognized and the weighted-average method is used.

Answer: PRODUCTION COST WORKSHEET

<u>Flow of Production</u>	<u>Physical units</u>	<u>Direct materials</u>	<u>Conversion</u>
Work in process, beginning	37,500		
Started during period	<u>55,000</u>		
To account for	<u>92,500</u>		
Good units completed	75,000	75,000	75,000
Normal spoilage	3,000	3,000	3,000
Work in process, ending	<u>14,500</u>	<u>14,500</u>	<u>8,700</u>
Accounted for	<u>92,500</u>	<u>92,500</u>	<u>86,700</u>
<u>Costs</u>	<u>Totals</u>	<u>Direct Materials</u>	<u>Conversion</u>
Work in process, beginning	\$ 35,000	\$25,000	\$ 10,000
Costs added during period	<u>168,778</u>	<u>113,750</u>	<u>55,028</u>
Total costs to account for	203,778	138,750	65,028
Divided by equivalent units		<u>92,500</u>	<u>86,700</u>
Equivalent unit costs	<u>\$ 2.25</u>	<u>\$ 1.50</u>	<u>\$ 0.75</u>

Assignment of costs

Costs transferred out ($75,000 \times \$2.25$)	\$ 168,750
Normal spoilage ($3,000 \times \$2.25$)	6,750
Work in process, ending	
Direct materials ($14,500 \times \$1.50$)	21,750
Conversion ($14,500 \times \$0.75 \times 0.60$)	<u>6,525</u>

Costs accounted for \$203,775

Diff: 2

Terms: spoilage, weighted-average method

Objective: 3

AACSB: Analytical skills

46) New Image Sports uses a process-costing system. For March, the company had the following activities:

Beginning work-in-process inventory (1/3 complete)	6,000 units
Units placed in production	24,000 units
Good units completed	18,000 units
Ending work-in-process inventory	10,000 units
Cost of beginning work in process	\$ 5,000
Direct material costs, current	\$18,000
Conversion costs, current	\$13,800

Direct materials are placed into production at the beginning of the process. All spoilage is normal and is detected at the end of the process. Ending WIP is 50% completed as to conversion.

Required:

Prepare a production cost worksheet using the FIFO method.

Answer: Normal spoilage = $6,000 + 24,000 - 18,000 - 10,000 = 2,000$

Started and completed = $18,000 - 6,000 = 12,000$

PRODUCTION COST WORKSHEET

<u>Flow Of Production</u>	<u>Physical Units</u>	<u>Direct Materials</u>	<u>Conversion</u>
Work in process, beginning	6,000		
Started during period	<u>24,000</u>		
To account for	<u>30,000</u>		
Good units completed:			
Beginning work in process	6,000		4,000
Started and completed	12,000	12,000	12,000
Normal spoilage	2,000	2,000	2,000
Work in process, ending	<u>10,000</u>	<u>10,000</u>	<u>5,000</u>
Accounted for	<u>30,000</u>	<u>24,000</u>	<u>23,000</u>

<u>Costs</u>	<u>Totals</u>	<u>Direct Materials</u>	<u>Conversion</u>
Work in process, beginning	\$ 5,000		
Costs added during period	<u>31,800</u>	<u>\$18,000</u>	<u>\$13,800</u>
Total costs to account for	\$36,800	\$18,000	\$13,800
Divided by equivalent units		<u>24,000</u>	<u>23,000</u>
Equivalent-unit costs	<u>\$ 1.35</u>	<u>\$ 0.75</u>	<u>\$ 0.60</u>

Assignment of cost:

Work in process, beginning	\$ 5,000
Completion of beginning (4,000 × \$0.60)	<u>2,400</u>
Total beginning inventory	7,400
Started and completed (12,000 × \$1.35)	16,200
Normal spoilage (2,000 × \$1.35)	<u>2,700</u>
Total costs transferred out	26,300
Work in process, ending	
Direct materials (10,000 × \$0.75)	\$7,500
Conversion (10,000 × \$0.60 × 0.5)	<u>3,000</u>

Costs accounted for \$36,800

Diff: 3

Terms: normal spoilage, spoilage, first-in, first-out method

Objective: 3

AACSB: Analytical skills

47) Weather Instruments assembles products from component parts. It has two departments that process all products. During January, the beginning work in process in the assembly department was half complete as to conversion and complete as to direct materials. The beginning inventory included \$12,000 for materials and \$4,000 for conversion costs. Overhead is applied at the rate of 50% of direct manufacturing labor costs. Ending work-in-process inventory in the assembly department was 40% complete. All spoilage is considered normal and is detected at the end of the process.

Beginning work in process in the finishing department was 75% complete as to conversion and ending work in process was 25% converted. Direct materials are added at the end of the process. Beginning inventories included \$16,000 for transferred-in costs and \$10,000 for direct manufacturing labor costs. Overhead in this department is equal to direct manufacturing labor costs. Additional information about the two departments follows:

	<u>Assembly</u>	<u>Finishing</u>
Beginning work-in-process units	20,000	24,000
Units started this period	40,000	?
Units transferred this period	50,000	54,000
Ending work-in-process units	8,000	20,000
Material costs added	\$44,000	\$28,000
Direct manufacturing labor	\$16,000	\$24,000

Required:

Prepare a production cost worksheet using weighted-average for the assembly department and FIFO for the finishing department.

Answer: Normal spoilage in assembly = 20,000 + 40,000 - 50,000 - 8,000 = 2,000

PRODUCTION COST WORKSHEET

Assembly Department

Weighted-Average Method

<u>Flow of production</u>	<u>Physical Units</u>	<u>Direct Materials</u>	<u>Conversion</u>
Work in process, beginning	20,000		
Started during period	<u>40,000</u>		
To account for	<u>60,000</u>		

Good units completed and			
Transferred out	50,000	50,000	50,000
Normal spoilage	2,000	2,000	2,000
Work in process, ending	<u>8,000</u>	<u>8,000</u>	<u>3,200</u>
Accounted for	<u>60,000</u>	<u>60,000</u>	<u>55,200</u>

<u>Costs</u>	<u>Totals</u>	<u>Direct materials</u>	<u>Conversion</u>
Work in process, beginning	\$16,000	\$12,000	\$ 4,000
Costs added during period	<u>68,000</u>	<u>44,000</u>	<u>24,000</u>
Total costs to account for	84,000	56,000	28,000
Divided by equivalent units		<u>60,000</u>	<u>55,200</u>
Equivalent-unit costs	<u>\$ 1.44</u>	<u>\$ 0.93</u>	<u>\$ 0.51</u>

<u>Assignment of costs</u>	
Transferred out (50,000 × \$1.44)	\$72,000
Normal spoilage (2,000 × \$1.44)	<u>2,880</u>
Total costs transferred out	74,880
Work in process, ending	
Direct materials (8,000 × \$0.93)	\$7,440
Conversion (8,000 × 0.40 × \$0.51)	<u>1,632</u>
Costs accounted for	<u>\$83,952</u>
(Differences due to rounding)	

PRODUCTION COST WORKSHEET

Finishing Department

FIFO Method

<i>Flow of Production</i>	Physical Units	Direct Materials	Conversion	Transferred In
Work in process, beginning	24,000			
Started during period	<u>50,000</u>			
To account for	<u>74,000</u>			
Good units completed:				
Beginning work in process	24,000	24,000	6,000	
Started and completed	30,000	30,000	30,000	30,000
Work in process, ending	<u>20,000</u>	<u>0</u>	<u>5,000</u>	<u>20,000</u>
Accounted for	<u>74,000</u>	<u>54,000</u>	<u>41,000</u>	<u>50,000</u>

<i>Costs</i>	Physical Units	Direct Materials	Conversion	Transferred In
Work in process, beginning	\$ 36,000			
Costs added during period	<u>150,880</u>	<u>\$28,000</u>	<u>\$48,000</u>	<u>\$74,880</u>
Total costs to account for	186,880	28,000	48,000	74,880
Divided by equivalent units		<u>54,000</u>	<u>41,000</u>	<u>50,000</u>
Equivalent-unit costs	<u>\$ 3.19</u>	<u>\$ 0.52</u>	<u>\$ 1.17</u>	<u>\$ 1.50</u>

Assignment of costs:

Work in process, beginning			\$ 36,000	
Completion of beginning:				
Direct materials (24,000 × \$0.52)	\$12,480			
Conversion costs (24,000 × 0.25 × \$1.17)		<u>7,020</u>		<u>19,500</u>
Total beginning inventory			55,500	
Started and completed (30,000 × \$3.19)				<u>95,700</u>
Total costs transferred out			151,200	
Work in process, ending				
Transferred in (20,000 × \$1.50)	\$30,000			
Conversion costs (20,000 × \$1.17 × 0.25)		<u>5,850</u>		<u>35,850</u>
Costs accounted for			<u>\$187,050</u>	
(Differences due to rounding)				

Diff: 3

Terms: spoilage, normal spoilage, first-in, first-out method

Objective: 3

AACSB: Analytical skills

48) Harriet has been reviewing the accounting system for her company and she is very concerned about the accounting for spoilage. It appears that spoilage is accounted for only at the end of the processing cycle. While this concept is acceptable in general, Harriet believes that a better method can be found to properly account for the spoilage when it occurs. She believes that there must be something better than the weighted-average method of accounting for spoilage. She would like the company to use a method that provides closer tracking of the spoilage with the accounting for the spoilage.

Required:

Discuss the problems Harriet is having with the accounting system.

Answer: The main problem Harriet has is that she does not understand the accounting system. The use of weighted-average or FIFO is not for addressing the problems of spoilage tracking. While the methods differ slightly in the tracking of costs, FIFO keeps beginning inventories separate, and the point of accounting for spoilage is not affected by the accounting method. If the company can account for spoilage at different stages of completion, these stages can be converted into percentage of completion points, and the spoilage can be accounted for as the process completes each stage.

Diff: 3

Terms: spoilage, first-in, first-out method

Objective: 3

AACSB: Analytical skills

49) Spoilage can be a significant cost for many organizations. Discuss when spoilage might happen and how the costs of normal spoilage get allocated.

Answer: Spoilage may occur at various stages of the production process. In general, the cost of spoiled units is equal to the all costs incurred in producing the spoiled units up to the point of inspection.

The costs of normal spoilage are allocated to units in ending work-in-process inventory. The most common approach is to presume that normal spoilage occurs at the inspection point in the production cycle and to allocate its cost over all units that have passed that point during the accounting period. One cost-benefit decision to be made is when to do inspections. Naturally, the earlier the spoilage is caught, the less costly it will be as the conversion costs will be lower in the early stages of production. The costs of performing inspections can be compared to the expected savings from reducing the spoilage costs as part of the determination of when in the process the inspections should happen.

Diff: 3

Terms: spoilage

Objective: 3

AACSB: Analytical skills

Objective 18.4

1) The inspection point is the:

A) stage of the production cycle where products are checked to determine whether they are acceptable or unacceptable units

B) point at which costs are allocated between normal and abnormal spoilage

C) point at which the calculation of equivalent units is made

D) None of these answers is correct.

Answer: A

Diff: 2

Terms: inspection point

Objective: 4

AACSB: Ethical reasoning

- 2) When spoiled goods have a disposal value, the net cost of the spoilage is computed by:
- A) deducting disposal value from the costs of the spoiled goods accumulated to the inspection point
 - B) adding the costs to complete a salable product to the costs accumulated to the inspection point
 - C) calculating the costs incurred to the inspection point
 - D) None of these answers is correct.

Answer: A

Diff: 2

Terms: spoilage

Objective: 4

AACSB: Analytical skills

- 3) The costs of normal spoilage are allocated to the units in ending work-in-process inventory, in addition to completed units if the units:

- A) in ending inventory have not passed the inspection point
- B) in ending work-in-process inventory have passed the inspection point
- C) in ending work in process inventory are more than 50% complete
- D) in ending work-in-process inventory are less than 50% complete

Answer: B

Diff: 3

Terms: inspection point, normal spoilage

Objective: 4

AACSB: Analytical skills

- 4) Normal spoilage is computed on the basis of the number of:

- A) good units that pass inspection during the current period
- B) units that pass the inspection point during the current period
- C) units that are 100% complete as to materials
- D) None of these answers is correct.

Answer: A

Diff: 2

Terms: normal spoilage, inspection point

Objective: 4

AACSB: Reflective thinking

- 5) Which of the following INCORRECTLY reflects what units passed inspection this period? Assume beginning work in process was completed and ending work in process was started during the period.

Inspection Point at Completion Level

	<u>10%</u>	<u>50%</u>	<u>100%</u>
A) Beginning work in process (30% complete)	No	Yes	Yes
B) Started and completed	Yes	Yes	Yes
C) Ending work in process (40% complete)	Yes	No	No
D) Beginning work in process (5% complete)	Yes	No	No

Answer: D

Diff: 3

Terms: inspection point

Objective: 4

AACSB: Analytical skills

6) In general, it is presumed that normal spoilage occurs halfway between the beginning of the production process and the inspection point in the production cycle. This is because there is no easy way to determine where the spoilage has happened until the inspection has occurred.

Answer: FALSE

Explanation: The common approach is to presume that normal spoilage occurs at the inspection point in the production cycle.

Diff: 2

Terms: spoilage, standard costing

Objective: 4

AACSB: Analytical skills

7) All accounting systems must assume that the inspection point occurs when a process is 100% complete.

Answer: FALSE

Explanation: All accounting systems do not have to assume that the inspection point occurs when a process is 100% complete.

Diff: 2

Terms: inspection point

Objective: 4

AACSB: Communication

Objective 18.5

1) The Harleysville Manufacturing Shop produces motorcycle parts. Typically, 10 pieces out of a job lot of 1,000 parts are spoiled. Costs are assigned at the inspection point, \$50.00 per unit. Spoiled pieces may be disposed at \$10.00 per unit. The spoiled goods must be inventoried appropriately when the normal spoilage is detected. The current job requires the production of 2,500 good parts.

Which of the following journal entries properly reflects the recording of spoiled goods?

- | | | |
|-----------------------------------|-------|-------|
| A) Materials Control | 200 | |
| Manufacturing Overhead Control | 800 | |
| Work-in-Process Control | | 1,000 |
| B) Materials Control | 250 | |
| Manufacturing Overhead Control | 1,000 | |
| Work-in-Process Control | | 1,250 |
| C) Work-in-Process Control | 1,250 | |
| Materials Control | | 250 |
| Manufacturing Overhead Control | | 1,000 |
| D) Manufacturing Overhead Control | 1,000 | |
| Materials Control | | 200 |
| Work-in-Process Control | | 800 |

Answer: B

Explanation: B) Materials Control: 25 pieces \times \$10.00 = \$250

Manufacturing Overhead Control: 25 pieces \times (\$50.00 - \$10.00) = \$1,000

WIP Control: 25 pieces \times \$50.00 = \$1,250

Diff: 2

Terms: spoilage, inspection point

Objective: 5

AACSB: Reflective thinking

2) The Harleysville Manufacturing Shop produces motorcycle parts. Typically, 10 pieces out of a job lot of 1,000 parts are spoiled. Costs are assigned at the inspection point, \$50.00 per unit. Spoiled pieces may be disposed at \$10.00 per unit. The spoiled goods must be inventoried appropriately when the normal spoilage is detected. Job 101 requires the production of 2,500 good parts.

Which of the following journal entries would be correct if the spoilage occurred due to specifications required for Job 101?

- | | | |
|----------------------------|-----|-----|
| A) Work-in-Process Control | 100 | |
| Materials Control | | 100 |
| B) Materials Control | 100 | |
| Work-in-Process Control | | 100 |
| C) Materials Control | 250 | |
| Work-in-Process Control | | 250 |
| D) Work-in-Process Control | 250 | |
| Materials Control | | 250 |

Answer: C

Explanation: C) 25 pieces × \$10.00 = \$250

Diff: 2

Terms: normal spoilage, inspection point

Objective: 5

AACSB: Reflective thinking

3) A difference between job costing and process costing is that:

- A) job-costing systems usually do not distinguish between normal spoilage attributable to all jobs and normal spoilage attributable to a specific job
- B) job-costing systems usually distinguish between normal spoilage attributable to a specific job and spoilage common to all jobs
- C) process costing normally does not distinguish between normal spoilage attributable to a specific job and spoilage common to all jobs
- D) Both B and C are correct.

Answer: D

Diff: 2

Terms: spoilage, normal spoilage

Objective: 5

AACSB: Reflective thinking

4) Costs of abnormal spoilage are NOT considered to be inventoriable costs and are written off as costs of the accounting period in which the abnormal spoilage is detected.

Answer: TRUE

Diff: 3

Terms: abnormal spoilage, job costing

Objective: 5

AACSB: Analytical skills

5) When assigning costs, job-costing systems generally distinguish normal spoilage attributable to a specific job from normal spoilage common to all jobs.

Answer: TRUE

Diff: 3

Terms: job costing, process costing, normal spoilage

Objective: 5

AACSB: Analytical skills

6) When normal spoilage occurs because of the specifications of a particular job, that job bears the cost of the spoilage minus the disposal value of the spoilage.

Answer: TRUE

Diff: 3

Terms: normal spoilage

Objective: 5

AACSB: Communication

7) Shazam Machines produces numerous types of money change machines. All machines are made in the same production department and many use exactly the same processes. Because customers have such different demands for the machine characteristics, the company uses a job-costing system.

Unfortunately, some of the production managers have been upset for the last few months when their jobs were charged with the spoilage that occurred over an entire processing run of several types of machines. Some of the best managers have even threatened to quit unless the accounting system is changed.

Required:

What recommendations can you suggest to improve the accounting for spoilage?

Answer: Because the manufacturing process uses similar workstations for the products, it may be best to let the spoilage be considered a manufacturing problem rather than a job problem. With this assumption, the spoilage will be spread over the entire production process with each job being charged an appropriate amount of spoilage, thereby relieving some jobs of bearing the entire burden of spoilage just because they were being worked on when the machines or process malfunctioned.

Diff: 2

Terms: spoilage

Objective: 5

AACSB: Analytical skills

Objective 18.6

1) Which of the following entries reflects the original cost assignment before production items are reworked?

- | | | |
|-------------------------------------|-----|-----|
| A) Work-in-Process Control | XXX | |
| Materials Control | | XXX |
| Wages Payable Control | | XXX |
| Manufacturing Overhead Allocated | | XXX |
| B) Finished Goods Control | XXX | |
| Work-in-Process Control | | XXX |
| C) Manufacturing Overhead Allocated | XXX | |
| Materials Control | | XXX |
| Wages Payable Control | | XXX |
| Work-in-Process Control | | XXX |
| D) Materials Control | XXX | |
| Wages Payable Control | | XXX |
| Work-in-Process Control | | XXX |
| Manufacturing Overhead Allocated | | XXX |

Answer: A

Diff: 2

Terms: rework

Objective: 6

AACSB: Reflective thinking

2) Accounting for rework in a process-costing system:

- A) accounts for normal rework in the same way as a job-costing system
- B) requires abnormal rework to be distinguished from normal rework
- C) if the rework is normal, then rework is accounted for in the same manner as accounting for normal rework common to all jobs
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: rework

Objective: 6

AACSB: Reflective thinking

3) In accounting for scrap, which one of the following statements is FALSE?

- A) Normal scrap is accounted for separately from abnormal scrap
- B) In accounting for scrap, there is no distinction between the scrap attributable to a specific job and scrap common to all jobs
- C) Initial entries to scrap accounting records are most often made in dollar terms
- D) All of these answers are correct.

Answer: D

Diff: 3

Terms: scrap

Objective: 6

AACSB: Reflective thinking

4) When rework is normal and NOT attributable to a specific job, the costs of rework are charged to manufacturing overhead and are spread, through overhead allocation, over all jobs.

Answer: TRUE

Diff: 2

Terms: rework

Objective: 6

AACSB: Analytical skills

5) Valentine Florists operate a flower shop. Because most of their orders are via telephone or fax, numerous orders have to be reworked. The average cost of the reworked orders is \$6: \$3.75 for labor, \$1.50 for more flowers, and \$0.75 for overhead. This ratio of costs holds for the average original order. On a recent day, the shop reworked 48 orders out of 249. The original cost of the 48 orders totaled \$720. The average cost of all orders is \$16.16, including rework, with an average selling price of \$30

Required:

Prepare the necessary journal entry to record the rework for the day if the shop charges such activities to Arrangement Department Overhead Control. Prepare a journal entry to transfer the finished goods to Finished Goods Inventory.

Answer:

Arrangement Department Overhead Control	288	
Materials Control (48 × \$1.50)		72
Wages Payable Control (48 × \$3.75)		180
Shop Overhead Control (48 × \$0.75)		36
Finished Goods	720	
Work-in-Process Control		720

Diff: 2

Terms: rework

Objective: 6

AACSB: Analytical skills

6) Robotoys Incorporated manufactures and distributes small robotic toys. Because most of its orders are via telephone or fax, numerous orders have to be reworked. The average cost of the reworked orders is \$11.30: \$4.15 for labor, \$5.00 for more materials, and \$2.15 for overhead. This ratio of costs holds for the average original order. On a recent day, the shop reworked 83 orders out of 700. The original cost of the 83 orders totaled \$1,909. The average cost of all orders is \$24.34, including rework, with an average selling price of \$34.50.

Required:

Prepare the necessary journal entry to record the rework for the day if the shop charges such activities to Robo Department Overhead Control. Prepare journal entries to record all relevant rework charges as well as to transfer the reworked items finished goods to Finished Goods Inventory.

Answer:

Robo Department Overhead Control	937.90	
Materials Control (83 × \$5.00)		415.00
Wages Payable Control (83 × \$4.15)		344.45
Shop Overhead Control (83 × \$2.15)		178.45
Finished Goods	1,909	
Work-in-Process Control		1,909

Diff: 2

Terms: rework

Objective: 6

AACSB: Analytical skills

7) When a unit has to be reworked, the rework may be classified in three ways. What are those ways, and how does the accounting for each differ?

Answer: The rework may be (1) normal rework attributable to a specific job; (2) normal rework common to all jobs; or (3) abnormal rework. If the rework is attributable to a specific job, then the cost of such rework should be charged to that job. If the rework is common to all jobs, then the cost of the rework should be charged to manufacturing overhead and spread across all jobs. If the rework is abnormal rework then the cost of the rework should be charged as a loss to the period in which the rework is required.

Diff: 2

Terms: rework

Objective: 6

AACSB: Reflective thinking

Objective 18.7

1) When the amount of scrap is immaterial, the easiest accounting entry when recording scrap sold for cash is:

- A) Sales of Scrap
Cash
- B) Cash
Manufacturing Overhead Control
- C) Cash
Sales of Scrap
- D) Accounts Receivable
Sales of scrap

Answer: C

Diff: 2

Terms: scrap

Objective: 7

AACSB: Reflective thinking

2) Assume the amount of scrap is material and the scrap is sold immediately after it is produced. If the scrap attributable to a specific job is sold on account, the journal entry is:

- A) Work-in-Process Control
Cash
- B) Work-in-Process Control
Accounts Receivable
- C) Accounts Receivable
Work-in-Process Control
- D) Work-in-Process Control
Accounts Payable

Answer: C

Diff: 3

Terms: scrap

Objective: 7

AACSB: Reflective thinking

3) If scrap, common to all jobs, is returned to the storeroom and the time between the scrap being inventoried and its disposal is quite lengthy, the journal entry is:

- A) Work-in-Process Control
Materials Control
- B) Materials Control
Work-in-Process Control
- C) Manufacturing Overhead Control
Materials Control
- D) Materials Control
Manufacturing Overhead Control

Answer: D

Diff: 3

Terms: scrap

Objective: 7

AACSB: Reflective thinking

4) The accounting for scrap under process costing is similar to the accounting under:

- A) job costing when scrap is different for each job
- B) job costing when scrap is common to all jobs
- C) process costing when scrap is different for each job
- D) process costing when scrap is a common to all jobs

Answer: B

Diff: 2

Terms: scrap

Objective: 7

AACSB: Reflective thinking

5) Which of the following is NOT a major consideration when accounting for scrap?

- A) keeping detailed records of physical quantities of scrap at all stages of the production process
- B) inventory costing including when and how scrap affects operating income
- C) planning and control including physical tracking
- D) decisions as to whether to group scrap with reworked units

Answer: D

Diff: 2

Terms: scrap

Objective: 7

AACSB: Reflective thinking

6) Scrap is usually divided between normal and abnormal scrap.

Answer: FALSE

Explanation: No distinction is made between normal and abnormal scrap because no cost is assigned to scrap.

Diff: 2

Terms: scrap

Objective: 7

AACSB: Analytical skills

7) If scrap is returned to the company's storeroom and inventoried, it should NOT have any value in the accounting records.

Answer: FALSE

Explanation: The scrap will be inventoried. It might not have a value in dollars but it will have a physical quantity value.

Diff: 3

Terms: scrap

Objective: 7

AACSB: Ethical reasoning

8) When the dollar amount of scrap is immaterial, the simplest accounting is to record the physical quantity of scrap returned to the storeroom and to regard scrap sales as a separate line item in the income statement.

Answer: TRUE

Diff: 2

Terms: scrap

Objective: 7

AACSB: Analytical skills

9) Costs are assigned to scrap only if it is normal scrap.

Answer: FALSE

Explanation: Scrap is not broken down into normal and abnormal costs.

Diff: 2

Terms: scrap

Objective: 7

AACSB: Analytical skills

10) Accounting for scrap is very similar to accounting for byproducts.

Answer: TRUE

Diff: 2

Terms: scrap, byproducts

Objective: 7

AACSB: Analytical skills

11) Recognizing the value of scrap in the accounting records is always done at the time the scrap is produced.

Answer: FALSE

Explanation: There are methods in which the value of scrap is recognized at the time it is produced and there are methods in which the value of scrap is recognized at the time of its sale.

Diff: 2

Terms: scrap

Objective: 7

AACSB: Ethical reasoning

12) Busy Hands Craft Company is a small manufacturing company that specializes in arts and crafts items. It recently bought an old textile mill that it has refurbished to manufacture and dye special cloth to be sold in its craft shops. However, it discovered something new for its accounting system. The company never before had finished goods that did not meet standard, leftover materials from processing runs, or unacceptable outputs.

Required:

As the business consultant for the company, explain how it can handle the items mentioned. Include any potential problems with the accounting procedures.

Answer: First, an explanation of each item is needed.

1. Rework units are those units that are defective but can be reworked and sold as acceptable finished goods.
2. Scrap is leftover material that may have a minimal sales value. Scrap may be either sold, disposed, or reused in another job or processing run.
3. Spoilage is the production outputs that cannot be reworked. These units are discarded or sold for minimal value.

The potential problem with these areas is that they may be treated differently by the accounting system. The company should establish an acceptable and consistent method of handling each area. A consistent policy also aids the managers who are being evaluated by their department's efforts.

Diff: 2

Terms: rework, scrap, spoilage

Objective: 6, 7

AACSB: Analytical skills

13) Explain the meaning of the terms spoilage, scrap, and rework. Provide an example of each. Is it possible for a single firm to have all three from a single productive process?

Answer: Spoilage is units of production that do not meet the specifications required by customers for good units, and are discarded or sold for reduced prices. An example of spoilage would be a damaged pair of Levi's Jeans sold as a "second."

Rework is unacceptable units that are subsequently repaired and sold as acceptable finished goods. An example of rework would be a pair of Jeans that might require some additional trimming before they become acceptable.

Scrap is residual material that results from manufacturing a product; it has low retail sales value compared with the total sales value of the product. An example of scrap would be any leftover material from a cutting process that is too small to use in any other clothing.

As the above examples indicate, a single productive process might generate, spoilage, scrap, and rework simultaneously.

Diff: 2

Terms: spoilage, scrap, rework

Objective: 6, 7

AACSB: Reflective thinking

14) You are the chief financial officer of a lumber mill, and you are becoming quite concerned about the spoilage, scrap, and reworked items associated with your production processes. Your firm produces mainly products for the building industry.

Required:

Discuss the problems associated with these items and the methods your company can use to reduce spoilage, scrap, and reworked items.

Answer: The problems associated with these items include:

1. your company pays for the total raw material, not just the portion converted into a salable product;
2. the cost of disposing these unsalable or unused items, both the disposal costs and the costs and problems associated with finding a landfill site or other disposal site;
3. these disposed or unused items can create an eyesore, and attract the wrath of the environmentalists; and
4. developing high-value added products that can be produced from these various items.

The methods your company can use to reduce these items include:

1. calculating the costs of these problems because an accurate assessment of the total costs should certainly provide an incentive to your firm to investigate possible actions;
2. exploring methods of redesigning the production process to minimize these costs; and
3. investing in more sophisticated capital equipment that can be designed to reduce these costs.

Diff: 3

Terms: rework, scrap, spoilage

Objective: 6, 7

AACSB: Analytical skills

15) How can a company account for scrap? Include in your explanation a discussion of the two aspects of accounting for scrap.

Answer: Since scrap is a residual material that results from manufacturing a product, it has a low sales value as compared to the actual value of the product. The aspects of accounting for scrap are (1) planning and control of the scrap (which includes the physical tracking), and (2) inventory costing (which includes when and how scrap affects operating income).

Regarding the planning and control of the scrap it is important to measure how much scrap is being generated (by weighing or counting the pieces) and then keep records to indicate where the scrap is keeping a log of quantity and location. This will help to develop records that can be used to compare the amount of scrap generated to the expected amount generated based on budgets and units of good product completed. Also, since scrap has a value, it will reduce the likelihood that the scrap gets stolen.

In terms of the cost accounting for the scrap there are two options regarding when the scrap is potentially recognized in the accounting records: (1) at the time the scrap is produced, or (2) at the time the scrap is sold. If the dollar value of the scrap is immaterial, the simplest accounting method is to record the quantity of scrap returned to the storage area and then regard the scrap sales as a separate line item in the income statement. If the scrap is material in value, then it can be recognized at the time of its production and can have journal entries returning it to a materials control asset account (as a debit) and then credited when it later gets sold.

Diff: 2

Terms: scrap

Objective: 7

AACSB: Reflective thinking

16) For each of the following (actual real-world examples), develop products that can be sold from the listed scrap.

- a. The Federal Reserve Banks destroy old money. Burning this money is usually forbidden under the environmental laws of most municipalities.
- b. A manufacturer of cotton undergarments for prisoners has much cotton left over. The manufacturer is located in a very rural area of Alabama.
- c. A hog renderer has hog bristles as a result of the slaughtering process.

Answer:

a. The Federal Reserve Banks bag up the shredded money and sell it in gift shops. This is a very efficient use of the scrap. The purchasers pay a price in excess of what the Federal Reserve would receive from any other source. Other uses might include selling for use as packaging materials.

b. The above manufacturer sells the scrap for use in the cleaning of guns. Other uses would include similar cleaning uses or dyeing the cloth and selling it for ornaments.

c. The hog bristles can be used in shaving equipment and for bristle brushes.

Diff: 2

Terms: scrap

Objective: 7

AACSB: Ethical reasoning

Objective 18.A

1) The standard-costing method:

A) adds a layer of complexity to the calculation of equivalent-unit costs in a process-costing environment

B) makes calculating equivalent-unit costs unnecessary

C) requires an analysis of the spoilage costs in beginning inventory

D) requires an analysis of the spoilage costs in ending inventory

Answer: B

Diff: 2

Terms: standard-costing method, spoilage

Objective: A

AACSB: Reflective thinking

2) Under standard costing, there is no need to calculate a cost per equivalent unit.

Answer: TRUE

Diff: 2

Terms: spoilage, standard costing

Objective: A

AACSB: Analytical skills

3) Springfield Sign Shop manufactures only specific orders. It uses a standard cost system. During one large order for the airport authority, an unusual number of signs were spoiled. The normal spoilage rate is 10% of units started. The point of first inspection is half way through the process, the second is three-fourths through the process, and the final inspection is at the end of the process. Other information about the job is as follows:

Signs started 3,000
Signs spoiled 450

Direct materials put into process at beginning	\$ 60,000
Conversion costs for job	\$120,000
Standard direct material costs per sign	\$27
Standard conversion cost per sign	\$54
Average point of spoilage is the 3/4 completion point	
Average current disposal cost per spoiled sign	\$15

Required:

Make necessary journal entries to record all spoilage.

Answer:

Average cost per sign when spoiled:

Direct material cost	\$27.00
Conversion ($\$54 \times 3/4$)	<u>40.50</u>
Total cost per spoiled sign	<u>\$67.50</u>

Abnormal spoilage = Total spoilage - normal spoilage
= 450 - 300
= 150

Materials Control ($450 \times \$15$)	6,750	
Loss from Abnormal Spoilage ($150 \times \$52.50$)	7,875	
Manufacturing Overhead Control ($300 \times \$52.50$)	15,750	
Work-in-Process Control, airport job ($450 \times \$67.50$)		30,375

Diff: 3

Terms: spoilage, normal spoilage, standard cost system

Objective: A

AACSB: Analytical skills