

## Chapter 2

### Basic Cost Management Concepts **Answer Key**

#### True / False Questions

1. An important first step in studying managerial accounting is to create a framework for thinking about the various types of costs incurred by organizations and how those costs are actively managed.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-01*

*Feedback True: Correct! Thinking about various types of costs and how they are actively managed is an important first step.*

*Feedback False: This is an important first step.*

2. Different cost concepts and classifications are used for different purposes.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-01*

*Feedback True: Correct! Different cost concepts and classifications are used for different purposes.*

*Feedback False: This is a true statement.*

3. Inventoriable costs are expensed when incurred.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-02*

*Feedback True: This statement is incorrect.*

*Feedback False: Correct! Inventoriable costs are not expensed when incurred.*

4. Another term for product cost is cost of goods sold.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-02*

*Feedback True: Product cost is not known as cost of goods sold.*

*Feedback False: Correct! Product cost is not known as cost of goods sold.*

5. Finished goods inventory is ordinarily held for sale by a manufacturing company.

**TRUE**

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-03*

*Feedback True: Correct! It is true that finished goods inventory is held for sale by a manufacturing company.*

*Feedback False: It is true that finished goods inventory is held for sale by a manufacturing company.*

6. Selling and administrative costs are always period costs on any type of company's income statement.

**TRUE**

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-03*

*Feedback True: Correct! It is true that selling and administrative costs are period costs on any type of company's income statement.*

*Feedback False: It is true that selling and administrative costs are period costs on any type of company's income statement.*

7. There are three standard categories of manufacturing processes.

**FALSE**

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-04*

*Feedback True: There are not three standard categories of manufacturing processes.*

*Feedback False: Correct! There are not three standard categories of manufacturing processes.*

8. A job shop is generally associated with high production volume.

**FALSE**

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-04*

*Feedback True: Job shops are not associated with high production volume.*

*Feedback False: Correct! Job shops are not associated with high production volume.*

9. Manufacturing costs are classified into four categories.

**FALSE**

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-05*

*Feedback True: Manufacturing costs are not classified into four categories.*

*Feedback False: Correct! Manufacturing costs are not classified into four categories.*

10. Indirect labor is **not** a component of manufacturing overhead.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-05*

*Feedback True: Indirect labor is a component of manufacturing overhead.*

*Feedback False: Correct! Indirect labor is a component of manufacturing overhead.*

11. The following equation -- Beginning finished goods + cost of goods manufactured - ending finished goods -- is used to calculate cost of goods sold during the period.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-06*

*Feedback True: Correct! This is the equation used to calculate cost of goods sold during the period.*

*Feedback False: This is the equation used to calculate cost of goods sold during the period.*

12. The total cost of direct material, direct labor, and manufacturing overhead transferred from work-in-process inventory to finished-goods inventory is called the cost of goods manufactured.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-06*

*Feedback True: Correct! Total cost of direct material, direct labor, and manufacturing overhead that is transferred from WIP to finished goods is called cost of goods manufactured.*

*Feedback False: This is a true statement.*

13. A suitable cost driver for the amount of direct materials used is the number of direct labor hours worked.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-07*

*Feedback True: A suitable cost driver for material would not be labor.*

*Feedback False: Correct! This statement is false because a suitable cost driver for material would not be labor.*

14. The higher the correlation between the cost and the cost driver, the more accurate will be the resulting understanding of cost behavior.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-07*

*Feedback True: Correct! It is true that higher correlation between cost and cost driver will result in greater understanding of the cost behavior.*

*Feedback False: A higher correlation between cost and cost driver will result in greater understanding of the cost behavior.*

15. As activity changes, total variable cost increases or decreases proportionately with the activity change, but unit variable cost remains the same.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-08*

*Feedback True: Correct! It is true that as activity changes, total variable cost will increase or decrease proportionately, but unit variable cost stays the same.*

*Feedback False: As activity changes, total variable cost will increase or decrease proportionately, but unit variable cost stays the same.*

16. As the activity level increases, total fixed cost remains constant and unit fixed cost remains the same.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-08*

*Feedback True: Total fixed cost and total unit fixed cost will not remain the same with activity level increases.*

*Feedback False: Correct! Total fixed cost and total unit fixed cost will not remain the same with activity level increases.*

17. A cost that is **not** directly traceable to a particular cost object is called an indirect cost.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-09*

*Feedback True: Correct! It is true that a cost, which is not directly traceable to a particular cost object, is called an indirect cost.*

*Feedback False: A cost, which is not directly traceable to a particular cost object, is called an indirect cost.*

18. Costs that a manager can influence significantly are classified as uncontrollable costs of that manager.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-09*

*Feedback True: Costs influenced by managers are not classified as uncontrollable costs.*

*Feedback False: Correct! Costs influenced by managers are not classified as uncontrollable costs.*

19. Out-of-pocket costs are defined as the benefit that is sacrificed when the choice of one action precludes taking an alternative course of action.

**FALSE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-10*

*Feedback True: When an action precludes taking an alternative action, this is not known as out-of-pocket costs.*

*Feedback False: Correct! When an action precludes taking an alternative action, this is not known as out-of-pocket costs.*

20. Sunk costs are irrelevant to all future decisions.

**TRUE**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-10*

*Feedback True: Correct! It is true that sunk costs are irrelevant to all future decisions.*

*Feedback False: Sunk costs are irrelevant to all future decisions.*

**Multiple Choice Questions**

21. Which of the following statements is true?

- A. The word "cost" has the same meaning in all situations in which it is used.
- B. Cost data, once classified and recorded for a specific application, are appropriate for use in any application.
- C. Different cost concepts and classifications are used for different purposes.**
- D. All organizations incur the same types of costs.
- E. Costs incurred in one year are always meaningful in the following year.

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-01*

*Feedback A: Cost has different meanings in different situations.*

*Feedback B: Cost data from one application may not be appropriate for use in another application.*

*Feedback C: Correct! It is true that different cost concepts and classifications are used for different purposes.*

*Feedback D: Not all organizations incur the same types of costs.*

*Feedback E: Cost incurred in one year may not be meaningful in the following year.*

22. Research and development costs are classified as:

- A. product costs.
- B. period costs.**
- C. inventoriable costs.
- D. cost of goods sold.
- E. labor costs.

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-02*

*Feedback A: Research and development costs are not classified as product costs.*

*Feedback B: Correct! Research and development costs are classified as period costs.*

*Feedback C: Research and development costs are not classified as inventoriable costs.*

*Feedback D: Research and development costs are not classified as cost of goods sold.*

*Feedback E: Research and development costs are not classified as labor costs.*



23. Product costs are:

- A. expensed when incurred.
- B. inventoried.**
- C. treated in the same manner as period costs.
- D. treated in the same manner as advertising costs.
- E. subtracted from cost of goods sold.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02

Feedback A: ~~Correct! Product costs are not expensed when incurred.~~ Product costs are not expensed when occurred.

Feedback B: Correct! Product costs are inventoried.

Feedback C: Product costs are not treated in the same manner as period costs.

Feedback D: Product costs are not treated in the same manner as advertising costs.

Feedback E: Product costs are not subtracted from cost of goods sold.

24. Which of the following is a product cost?

- A. Circuitry used in producing hard drives.**
- B. Monthly advertising in the newspaper.
- C. The salary of the vice president-finance.
- D. Sales commissions.
- E. Research costs for new router development.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02

Feedback A: Correct! Circuitry used in manufacturing hard drives is a product cost.

Feedback B: Advertising is not a product cost.

Feedback C: The salary of the vice president-finance is not a product cost.

Feedback D: Sales commission is not a product cost.

Feedback E: Research and development cost is not a product cost.

25. Which of the following would **not** be classified as a product cost?

- A. Direct materials.
- B. Direct labor.
- C. Indirect materials.
- D. Insurance on a manufacturing plant.
- E. Sales bonuses for meeting quota sales.**

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02

Feedback A: Direct materials are product costs.

Feedback B: Direct labor is a product cost.

Feedback C: Indirect materials are product costs.

Feedback D: Manufacturing plant insurance is a product cost.

Feedback E: Correct! Sales bonuses are not product costs.

26. The accounting records of Dixon Company revealed the following costs: direct materials used, \$250,000; direct labor, \$425,000; manufacturing overhead, \$375,000; and selling and administrative expenses, \$220,000. Dixon's product costs total:

- A. \$1,050,000.**
- B. \$830,000.
- C. \$895,000.
- D. \$1,270,000.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Bloom's: A

Difficulty: Medium

Learning Objective: 02-02

Feedback A: Correct! Product costs = Direct materials used + Direct labor + Manufacturing overhead = \$250,000 + \$425,000 + \$375,000 = \$1,050,000

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: There is a correct amount given.

27. Costs that are expensed when incurred are called:

- A. product costs.
- B. direct costs.
- C. inventoriable costs.
- D.** period costs.
- E. indirect costs.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02

Feedback A: Product costs are not expensed when incurred.

Feedback B: Direct costs are not expensed when incurred.

Feedback C: Inventoriable costs are not expensed when incurred.

Feedback D: Correct! Period costs are expensed when incurred.

Feedback E: Indirect costs are not expensed when incurred.

28. Which of the following is a period cost?

- A. Direct material.
- B.** Advertising expense.
- C. Indirect labor.
- D. Miscellaneous supplies used in production activities.
- E. Factory foreman salary for the motor production line.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02

Feedback A: Direct material is not a period cost.

Feedback B: **Correct!** Advertising expense is a period cost.

Feedback C: Indirect labor is not a period cost.

Feedback D: Miscellaneous supplies used in production are not period costs.

Feedback E: Factory foreman salary is not a period cost.

29. Which of the following is **not** a period cost?

- A. Legal costs.
- B. Public relations costs.
- C. Sales commissions.
- D. Wages of assembly-line workers.**
- E. The salary of a company's chief financial officer (CFO).

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02

Feedback A: Legal costs are period costs.

Feedback B: Public relations costs are period costs.

Feedback C: Sales commissions are period costs.

Feedback D: Correct! The wages of assembly line workers are not period costs.

Feedback E: The salary of a company's chief financial officer (CFO) is a period cost.

30. The accounting records of Younkin Corporation revealed the following selected costs: Sales commissions, \$65,000; plant supervision, \$190,000; and administrative expenses, \$185,000. Younkin's period costs total:

- A. \$250,000.**
- B. \$440,000.
- C. \$375,000.
- D. \$255,000.
- E. \$185,000.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02

Feedback A: Correct! Period costs = Sales commissions + Administrative expenses = \$65,000 + \$185,000 = \$250,000.

Feedback B: This is not the correct amount.

Feedback C: This is not the correct amount.

Feedback D: This is not the correct amount.

Feedback E: This is not the correct amount.

31. Shu Corporation recently computed total product costs of \$567,000 and total period costs of \$420,000, excluding \$35,000 of sales commissions that were overlooked by the company's administrative assistant. On the basis of this information, Shu's income statement should reveal operating expenses of:

- A. \$35,000.
- B. \$420,000.
- C. \$455,000.**
- D. \$567,000.
- E. \$602,000.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02

Feedback A: This is not the correct amount.

Feedback B: This is not the correct amount.

Feedback C: Correct! Operating expenses = Period costs + Excluded sales commissions = \$420,000 + \$35,000 = \$455,000

Feedback D: This is not the correct amount.

Feedback E: This is not the correct amount.

32. Which of the following would **not** be a period cost?

- A. Sales salaries.
- B. Sales commissions.
- C. Tamper-proof packaging.**
- D. Legal costs.
- E. Accounting costs.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02

Feedback A: This is a period cost.

Feedback B: This is a period cost.

Feedback C: Correct! Tamper-proof packaging would not be a period cost.

Feedback D: This is a period cost.

Feedback E: This is a period cost.

33. Which of the following entities would most likely have raw materials, work in process, and finished goods?

- A. A petroleum refiner.
- B. A national department store.
- C. A fast food restaurant.
- D. A regional airline.
- E. A state university.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-03*

*Feedback A: Correct! A petroleum refiner would be most likely to have these three inventories.*

*Feedback B: A retail department store is not likely to have these three inventories.*

*Feedback C: A fast food restaurant is not likely to have these three inventories.*

*Feedback D: A regional airline is not likely to have these three inventories.*

*Feedback E: A state university or education service provider is not likely to have these three inventories.*

34. Selling and administrative expenses would likely appear on the balance sheet of:

- A. A clothing store.
- B. A computer manufacturer.
- C. A television network.
- D. All of these firms.
- E. None of these firms.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-03*

*Feedback A: These expenses would not be found on the balance sheet.*

*Feedback B: These expenses would not be found on the balance sheet.*

*Feedback C: These expenses would not be found on the balance sheet.*

*Feedback D: These expenses would not be found on the balance sheet.*

*Feedback E: Correct! Expenses are found on the income statement, not the balance sheet.*

35. Which of the following inventories would a discount retailer report as an asset?

- A. Raw materials.
- B. Work in process.
- C. Finished goods.
- D.** Merchandise inventory.
- E. All of the answers are correct.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-03*

*Feedback A: Retailers would not have raw materials.*

*Feedback B: Retailers would not have work in process.*

*Feedback C: Retailers would not produce finished goods.*

*Feedback D: Correct! Retailers purchase their merchandise inventories from wholesalers, who get the inventory from manufacturers.*

*Feedback E: Not all of these inventories would be found in the assets of a retailer.*

36. Which of the following inventories would a company ordinarily hold for sale?

- A. Raw materials.
- B. Work in process.
- C.** Finished goods.
- D. Raw materials and finished goods.
- E. Work in process and finished goods.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-03*

*Feedback A: Raw materials are typically not held for sale.*

*Feedback B: Work in Process is typically not held for sale.*

*Feedback C: Correct! Inventories held for sale by manufacturers are finished goods.*

*Feedback D: Not both of these are held for sale.*

*Feedback E: Not both of these are held for sale.*

37. Which of the four items listed below is **not** a type of production process?

- A. Batch.
- B. Job Shop.
- C. Continuous Flow.
- D.** Job Flow.
- E. Assembly.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA: FN Decision Making*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-04*

*Feedback A: Batch is a type of production process.*

*Feedback B: Job shop is a type of production process.*

*Feedback C: Continuous flow is a type of production process.*

*Feedback D: Correct! Job flow is not a type of production process.*

*Feedback E: Assembly is a type of production process.*

38. Which type of production process is ideal for a low production volume and one-of-a-kind products?

- A. Batch.
- B. Continuous Flow.
- C.** Job Shop.
- D. Assembly.
- E. Direct assembly.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA: FN Decision Making*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-04*

*Feedback A: A batch process is not ideal for one-of-a-kind products.*

*Feedback B: A continuous flow process is not ideal for one-of-a-kind products.*

*Feedback C: Correct! One-of-a-kind products are ideally made in a job shop process.*

*Feedback D: An assembly process is not ideal for one-of-a-kind products.*

*Feedback E: A direct assembly process is not ideal for one-of-a-kind products.*



39. Which type of production process is likely used for custom yachts built by Hargrave?

- A. Batch.
- B. Continuous Flow.
- C. Job Shop.**
- D. Assembly.
- E. Direct assembly.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA: FN Decision Making*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-04*

*Feedback A: A batch process would not be used for custom products.*

*Feedback B: Continuous flow would not be used for custom products.*

*Feedback C: Correct! Custom yachts are most likely produced by a job shop process.*

*Feedback D: Assembly process would not be used for custom products.*

*Feedback E: Direct assembly process would not be used for custom products.*

40. Which type of production process is likely used by a paint manufacturer to produce paint?

- A. Batch.
- B. Continuous Flow.**
- C. Job Shop.
- D. Assembly.
- E. Direct assembly.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA: FN Decision Making*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-04*

*Feedback A: A batch process would not be used to make paint.*

*Feedback B: Correct! Continuous flow would likely be used to make paint.*

*Feedback C: Job shop would not be used to make paint.*

*Feedback D: Assembly process would not be used to make paint.*

*Feedback E: Direct assembly process would not be used to make paint.*

41. Which of the following would **not** be classified as direct materials by a company that makes automobiles?

- A. Wheel lubricant.
- B. Tires.
- C. Interior leather.
- D. CD player.
- E. Sheet metal used in the automobile's body.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Bloom's: N

Difficulty: Easy

Learning Objective: 02-05

Feedback A: Correct! Wheel lubricant would not be classified as direct materials, but instead as indirect materials.

Feedback B: Tires would be a direct material.

Feedback C: Interior leather would be a direct material.

Feedback D: A CD player would be a direct material.

Feedback E: Sheet metal for the body of the auto would be direct material.

42. Which of the following employees of a commercial printer/publisher would be classified as direct labor?

- A. Book binder.
- B. Plant security guard.
- C. Sales representative.
- D. Plant supervisor.
- E. Payroll supervisor.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-05

Feedback A: Correct! A book binder would be classified as direct labor.

Feedback B: Plant security would likely be classified as indirect labor.

Feedback C: Sales representative would be classified as an indirect cost for selling and administration purposes.

Feedback D: A plant supervisor would likely be classified as indirect labor.

Feedback E: A payroll supervisor would be classified as indirect labor and administrative costs.

43. Guaranteed Appliance Co. produces washers and dryers in an assembly-line process. Labor costs incurred during a recent period were: corporate executives, \$500,000; assembly-line workers, \$180,000; security guards, \$45,000; and plant supervisor, \$110,000. The total of Guaranteed's direct labor cost was:

- A. \$110,000.
- B. \$180,000.**
- C. \$155,000.
- D. \$235,000.
- E. \$735,000.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-05

Feedback A: This amount is incorrect because it is not direct labor cost.

Feedback B: Correct! \$180,000; the only direct labor is that associated with the actual production on the assembly line.

Feedback C: This amount is incorrect because it is not direct labor cost.

Feedback D: This amount is incorrect because it is not all direct labor cost.

Feedback E: This amount is incorrect because it is not all direct labor cost.

44. Which of the following employees would **not** be classified as indirect labor?

- A. Plant Custodian.
- B. Salesperson.
- C. An employee that packs products for shipment.
- D. Plant security guard.
- E. A line employee that produces parts for chairs using a saw and template.**

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-05

Feedback A: A plant custodian would be indirect labor.

Feedback B: A sales person would be indirect labor for selling and administration purposes

Feedback C: This employee is not making the product, so this is an indirect cost.

Feedback D: This is an indirect cost since the plant security guard is not involved in making the product.

Feedback E: Correct! This would be direct labor since this employee is involved in making the product.

45. Depreciation of factory equipment would be classified as:

- A. operating cost.
- B. "other" cost.
- C. manufacturing overhead.**
- D. period cost.
- E. administrative cost.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-05

Feedback A: Depreciation is not classified as operating cost.

Feedback B: Depreciation is not classified as "other" cost.

Feedback C: Correct! Depreciation is classified as manufacturing overhead.

Feedback D: Depreciation is not classified as a period cost.

Feedback E: Depreciation is not classified as administrative cost.

46. Which of the following costs is **not** a component of manufacturing overhead?

- A. Indirect materials.
- B. Factory utilities.
- C. Factory equipment.**
- D. Indirect labor.
- E. Property taxes on the manufacturing plant.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-05

Feedback A: Indirect materials are manufacturing overhead.

Feedback B: Factory utilities are manufacturing overhead.

Feedback C: Correct! Factory equipment is not a component of manufacturing overhead.

Feedback D: Indirect labor is manufacturing overhead.

Feedback E: Property taxes on the manufacturing plant are manufacturing overhead.

47. The accounting records of Comacho Company revealed the following costs, among others:

Factory insurance	\$ 32,000
Raw material used	256,000
Customer entertainment	15,000
Indirect labor	45,000
Depreciation on salespersons' cars	22,000
Production equipment rental costs	72,000

Costs that would be considered in the calculation of manufacturing overhead total:

- A. \$149,000.
- B. \$171,000.
- C. \$186,000.
- D. \$442,000.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-05

Feedback A: Correct! Manufacturing Overhead Costs = Factory insurance + Indirect labor + Production equipment rental costs = \$32,000 + \$45,000 + \$72,000 = \$149,000

Feedback B: This amount includes more than just overhead.

Feedback C: This amount includes more than just overhead.

Feedback D: This amount includes more than just overhead.

Feedback E: Try again! There is a correct answer listed.

48. Which of the following statements is (are) correct?

- A. Overtime premiums should be treated as a component of manufacturing overhead.
- B. Overtime premiums should be treated as a component of direct labor.
- C. Idle time should be treated as a component of direct labor.
- D. Idle time should be accounted for as a special type of loss.
- E. Overtime premiums should be treated as a component of direct labor and idle time should be treated as a component of direct labor.

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-05*

*Feedback A: Correct! Overtime premiums should be treated as a component of manufacturing overhead.*

*Feedback B: Overtime premiums are not direct labor.*

*Feedback C: Idle time is not direct labor.*

*Feedback D: Idle time is not accounted for as a special type of loss.*

*Feedback E: This statement is incorrect because neither are direct labor costs.*

49. Conversion costs are:

- A. direct material, direct labor, and manufacturing overhead.
- B. direct material and direct labor.
- C. direct labor and manufacturing overhead.
- D. prime costs.
- E. period costs.

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-05*

*Feedback A: These three costs do not equal conversion costs.*

*Feedback B: Direct material and direct labor do not equal conversion costs.*

*Feedback C: Correct! Direct labor and manufacturing overhead are used to convert materials and are therefore called conversion costs.*

*Feedback D: Prime costs are different than conversion costs.*

*Feedback E: Period costs do not refer to costs used to produce products and therefore are not conversion costs.*

50. Prime costs are comprised of:
- A. direct materials and manufacturing overhead.
  - B. direct labor and manufacturing overhead.
  - C. direct materials, direct labor, and manufacturing overhead.
  - D. direct materials and direct labor.**
  - E. direct materials and indirect materials.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-05

Feedback A: Prime costs do not include manufacturing overhead.

Feedback B: Prime costs do not include manufacturing overhead.

Feedback C: Prime costs do not include manufacturing overhead.

Feedback D: Correct! Prime costs are composed of direct materials and direct labor.

Feedback E: Prime costs do not include indirect materials.

51. The costs of direct materials are classified as:

	Conversion cost	Manufacturing cost	Prime cost
A.	Yes	Yes	Yes
B.	No	No	No
<b>C.</b>	No	Yes	Yes
D.	Yes	No	No
E.	No	Yes	No

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-05

Feedback A: This is incorrect regarding the classification of direct material costs.

Feedback B: This is incorrect regarding the classification of direct material costs.

Feedback C: Correct! Direct materials are not included in conversion costs but are included in manufacturing and prime costs.

Feedback D: This is incorrect regarding the classification of direct material costs.

Feedback E: This is incorrect regarding the classification of direct material costs.

52. What would the cost of fire insurance for a manufacturing plant generally be categorized as?

- A. Prime cost.
- B. Direct material cost.
- C. Period cost.
- D. Direct labor cost.
- E.** Product cost.

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-05*

*Feedback A: Fire insurance costs would not be a prime cost.*

*Feedback B: Fire insurance costs would not be direct material cost.*

*Feedback C: Fire insurance costs would not be period costs.*

*Feedback D: Fire insurance costs would not be direct labor costs.*

*Feedback E: Correct! Fire insurance costs would be product costs since they are associated with the manufacturing plant.*

53. How should a company that manufactures automobiles classify its partially completed vehicles?

- A. Supplies.
- B. Raw materials inventory.
- C. Finished goods inventory.
- D. Cost of goods manufactured.
- E.** Work-in-process inventory.

*AACSB: Analytic*

*AICPA BB: Industry*

*AICPA FN: Measurement*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-06*

*Feedback A: Partially complete vehicles would not be considered supplies.*

*Feedback B: Partially complete vehicles would not be considered raw materials inventory.*

*Feedback C: Partially complete vehicles would not be considered finished goods inventory.*

*Feedback D: Partially complete vehicles would not be considered cost of goods manufactured.*

*Feedback E: Correct! Partially complete vehicles would be considered work-in-process inventory.*



54. Which of the following statements is true?

- A. Product costs affect only the balance sheet.
- B. Product costs affect only the income statement.
- C. Period costs affect only the balance sheet.
- D. Neither product costs nor period costs affect the Statement of Retained Earnings. This can also be a true statement if the period costs were prepaid (i.e., prepaid advertising, depreciation).
- E.** Product costs eventually affect both the balance sheet and the income statement.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-06

Feedback A: Product costs affect more than just the balance sheet.

Feedback B: Product costs affect more than just the income statement.

Feedback C: Period costs do not affect only the balance sheet.

Feedback D: These are not true statements.

Feedback E: Correct! Product costs eventually affect both the balance sheet and the income statement.

55. In a manufacturing company, the cost of goods completed during the period would include which of the following elements?

- A.** Raw materials used.
- B. Beginning finished goods inventory.
- C. Marketing costs.
- D. Depreciation of delivery trucks.
- E. All of the answers are correct.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-06

Feedback A: Correct! Cost of goods completed during the period would include raw materials used.

Feedback B: Beginning finished goods inventory are not included in costs of goods completed during the period.

Feedback C: Marketing costs are not included in costs of goods completed during the period.

Feedback D: Depreciation of delivery trucks is not included in costs of goods completed during the period.

Feedback E: Not all of the answers are correct.

56. Which of the following equations is used to calculate cost of goods sold during the period?

- A. Beginning finished goods + cost of goods manufactured + ending finished goods.
- B. Beginning finished goods - ending finished goods.
- C. Beginning finished goods + cost of goods manufactured.
- D.** Beginning finished goods + cost of goods manufactured - ending finished goods.
- E. Beginning finished goods + ending finished goods - cost of goods manufactured.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-06

Feedback A: This is not the correct equation to calculate cost of goods sold during the period.

Feedback B: This is not the correct equation to calculate cost of goods sold during the period.

Feedback C: This is not the correct equation to calculate cost of goods sold during the period.

Feedback D: Correct! The equation to calculate cost of goods sold during the period is: Beginning finished goods + cost of goods manufactured – ending finished goods.

Feedback E: This is not the correct equation to calculate cost of goods sold during the period.

57. Work-in-process inventory is composed of:

- A. direct material and direct labor.
- B. direct labor and manufacturing overhead.
- C. direct material and manufacturing overhead.
- D.** direct material, direct labor, and manufacturing overhead.
- E. direct material only.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-06

Feedback A: Work-in process is composed of more than direct material and direct labor.

Feedback B: Work-in-process is composed of more than direct labor and manufacturing overhead.

Feedback C: Work-in-process is composed of more than direct material and manufacturing overhead.

Feedback D: Correct! Direct material, direct labor, and manufacturing overhead make up work-in-process inventory.

Feedback E: Work-in-process inventory is more than just direct material.

58. Harrison Industries began July with a finished-goods inventory of \$48,000. The finished-goods inventory at the end of July was \$56,000 and the cost of goods sold during the month was \$125,000. The cost of goods manufactured during July was:

- A. \$104,000.
- B. \$125,000.
- C. \$117,000.
- D. \$133,000.**
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This is not the correct amount for cost of goods manufactured.

Feedback B: This is not the correct amount for cost of goods manufactured.

Feedback C: This is not the correct amount for cost of goods manufactured.

Feedback D: Correct! Cost of goods manufactured in July = (Ending finished goods – Beginning finished goods) + Cost of goods sold (\$56,000 – 48,000) + \$125,000 = \$133,000.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

59. Texas Plating Company reported a cost of goods manufactured of \$520,000, with the firm's year-end balance sheet revealing work in process and finished goods of \$70,000 and \$134,000, respectively. If supplemental information disclosed raw materials used in production of \$80,000, direct labor of \$140,000, and manufacturing overhead of \$240,000, the company's beginning work in process must have been:

- A. \$130,000.**
- B. \$10,000.
- C. \$66,000.
- D. \$390,000.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: Correct!

Ending Work-in-Process + Cost of goods manufactured – Raw materials – Direct labor – Manufacturing Overhead = Beginning Work-in-Process

= \$70,000 + \$520,000 – 80,000 – 140,000 – 240,000 = ~~\$60,000~~ + \$70,000 = \$130,000.

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

60. The accounting records of Falcon Company revealed the following information:

Raw materials used	\$ 60,000
Direct labor	125,000
Manufacturing overhead	360,000
Work-in-process inventory, 1/1	50,000
Finished-goods inventory, 1/1	189,000
Work-in-process inventory, 12/31	76,000
Finished-goods inventory, 12/31	140,000

Falcon's cost of goods manufactured is:

- A. \$519,000.
- B. \$522,000.
- C. \$568,000.
- D. \$571,000.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: Correct! Cost of goods manufactured = [Raw materials + Direct labor + Manufacturing Overhead] - [~~\$60,000~~ + ~~\$125,000~~ + ~~\$360,000~~] - Change in WIP = [\$60,000 + \$125,000 + \$360,000] - (\$76,000 - \$50,000) = \$519,000

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

61. The accounting records of Stingray Company revealed the following information:

Total manufacturing costs	\$530,000
Work-in-process inventory, 1/1	56,000
Finished-goods inventory, 1/1	146,000
Work-in-process inventory, 12/31	78,000
Finished-goods inventory, 12/31	123,000

Stingray's cost of goods sold is:

- A. \$508,000.
- B. \$529,000.
- C. \$531,000.
- D. \$553,000.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: This amount is incorrect.

Feedback C: Correct! Cost of Goods sold = Total manufacturing costs - (Change in WIP) + (Change in Finished Goods) = \$530,000 - (\$78,000 - \$56,000) + (\$146,000 - \$123,000) = \$531,000

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

62. The accounting records of Upton Company revealed the following information:

Cost of goods manufactured	\$754,000
Work-in-process inventory, 1/1	58,000
Finished-goods inventory, 1/1	125,000
Work-in-process inventory, 12/31	49,000
Finished-goods inventory, 12/31	158,000

Upton's cost of goods sold is:

- A. \$721,000.
- B. \$730,000.
- C. \$778,000.
- D. \$787,000.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: Correct!  $\text{Cost of Goods Sold} = \text{Cost of goods manufactured} - \text{change in Finished Goods} = \$754,000 - (\$158,000 - \$125,000) = \$721,000$

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

63. For the year just ended, Porter Corporation's manufacturing costs (raw materials used, direct labor, and manufacturing overhead) totaled \$1,500,000. Beginning and ending work-in-process inventories were \$60,000 and \$90,000, respectively. Porter's balance sheet also revealed respective beginning and ending finished-goods inventories of \$250,000 and \$180,000. On the basis of this information, how much would the company report as cost of goods manufactured (CGM) and cost of goods sold (CGS)?

- A. CGM, \$1,430,000; CGS, \$1,460,000.
- B. CGM, \$1,470,000; CGS, \$1,540,000.**
- C. CGM, \$1,530,000; CGS, \$1,460,000.
- D. CGM, \$1,570,000; CGS, \$1,540,000.
- E. Some other amounts.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: Correct!  $\text{Cost of Goods Manufactured} = \text{Product cost during year} - \text{change in WIP} = \$1,500,000 - (\$90,000 - \$60,000) = \$1,470,000$ ;  $\text{Cost of goods sold} = \text{Product costs for year} - \text{change in WIP} + \text{Change in Finished goods} = [\$1,500,000 - (\$90,000 - \$60,000)] + (\$250,000 - \$180,000) = \$1,540,000$ .

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

64. Rainier Industries has Raw materials inventory on January 1, 20x8 of \$32,500 and Raw materials inventory on December 31, 20x8 of \$26,700. If purchases of raw materials were \$135,000 during the year, what was the amount of raw materials used during the year?

- A. \$129,200.
- B. \$140,800.**
- C. \$135,000.
- D. \$146,600.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: Correct!  $\text{Raw materials used during the year} = \text{Purchased raw materials} + (\text{change in Raw material balances}) = \$135,000 + (\$32,500 - \$26,700) = \$140,800$ .

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

65. Rainier Industries has Raw materials inventory on January 1, 20x8 of \$32,500 and Raw materials inventory on December 31, 20x8 of \$26,700. If raw materials used during the year were \$135,000 what was the amount of raw materials purchased during the year?

- A.** \$129,200.
- B. \$140,800.
- C. \$135,000.
- D. \$146,600.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: Correct! Raw materials purchased = Raw materials used – (change in Raw material balances) = \$135,000 – (\$32,500 - \$26,700) = \$129,200.

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

66. Peyton Manufacturing has the following data:

Work-in-process inventory, Jan. 1, 20x8	\$ 43,000
Work-in-process inventory, Dec. 31, 20x8	48,500
Conversion costs during the year	415,000

If direct materials used during the year were \$135,000, what was cost of goods manufactured?

- A. \$140,500.
- B. \$539,000.
- C. \$409,500.
- D.** \$544,500.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: Correct! Cost of goods manufactured = Conversion costs + Direct materials used – (change in WIP balances) = \$415,000 + \$135,000 – (\$48,500 - \$43,000) = \$544,500

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.



67. Peyton Manufacturing has the following data:

Work-in-process inventory, Jan. 1, 20x8	\$ 43,000
Work-in-process inventory, Dec. 31, 20x8	48,500
Conversion costs during the year	415,000

If the cost of goods manufactured for the year was \$565,000, what was the amount of direct materials used during the year?

- A. \$155,500.
- B. \$140,500.
- C. \$150,000.
- D. \$145,500.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: Correct! Direct materials used during the Year = Cost of Goods Manufactured - Conversion costs + (Change in WIP balances) = \$565,000 - \$415,000 + (\$48,500 - \$43,000) = \$155,500

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

68. Dorsett Technologies had finished goods inventory on January 1, 20X8 of \$29,300 and finished goods inventory on December 31, 20X8 of \$24,100. If the cost of goods manufactured for the year was \$385,000, what was the cost of goods sold for the year?

- A. \$395,400.
- B. \$385,000.
- C. \$390,200.
- D. \$400,600.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: This amount is incorrect.

Feedback C: Correct! Cost of Goods sold = Cost of Goods manufactured + Change in Finished goods balances = \$385,000 + (\$29,300 - \$24,100) = \$390,200.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

69. Dorsett Technologies had finished goods inventory on January 1, 20X8 of \$29,300 and finished goods inventory on December 31, 20X8 of \$24,100. If the cost of goods sold for the year was \$427,500, what was the cost of goods manufactured for the year?

- A. \$402,100.
- B.** \$422,300.
- C. \$417,100.
- D. \$427,500.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: Correct! Cost of goods manufactured – Change in Finished Goods Balances = \$427,500 – (\$29,300 - \$24,100) = \$422,300.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

70. Amaz-a-nation reported the following data for the year just ended: sales revenue, \$1,750,000; cost of goods sold, \$980,000; cost of goods manufactured, \$560,000; and selling and administrative expenses, \$170,000. Amaz-a-nation's gross margin would be:

- A. \$940,000.
- B. \$1,190,000.
- C. \$1,020,000.
- D. \$380,000.
- E.** \$770,000.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: This amount is incorrect.

Feedback E: Correct! Gross margin = Sales – cost of goods sold = \$1,750,000 - \$980,000 = \$770,000.

71. Tempest Enterprises began operations on January 1, 20x1, with all of its activities conducted from a single facility. The company's accountant concluded that the year's building depreciation should be allocated as follows: selling activities, 20%; administrative activities, 35%; and manufacturing activities, 45%. If Tempest sold 640% of 20x1 production during that year, what percentage of the depreciation would appear (either directly or indirectly) on the 20x1 income statement?

- A. 27%.
- B. 45%.
- C. 55%.
- D.** 82%.
- E. 100%.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Reporting

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This amount is incorrect.

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: Correct! Depreciation percentage = Selling activities + administrative activities + the part of manufacturing activities that were sold = 20% + 35% + (45% x 60%) = 82%

Feedback E: This amount is incorrect.

72. An employee accidentally overstated the year's advertising expense by \$50,000. Which of the following correctly depicts the effect of this error?

- A. Cost of goods manufactured will be overstated by \$50,000.
- B. Cost of goods sold will be overstated by \$50,000.
- C. Both cost of goods manufactured and cost of goods sold will be overstated by \$50,000.
- D. Cost of goods sold will be overstated by \$50,000, and cost of goods manufactured will be understated by \$50,000.
- E.** None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Reporting

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-06

Feedback A: This answer choice is incorrect.

Feedback B: This answer choice is incorrect.

Feedback C: This answer choice is incorrect.

Feedback D: This answer choice is incorrect.

Feedback E: Correct! None of these answer choices correctly depicts the correct effect of this error, since product costs do not include advertising expenses.

73. Which of the following would likely be a suitable cost driver for the amount of direct materials used?

- A. The number of units sold.
- B. The number of direct labor hours worked.
- C. The number of machine hours worked.
- D. The number of units produced.**
- E. The number of employees working in the factory.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-07

Feedback A: The number of units sold is not a suitable cost driver for direct materials.

Feedback B: The number of direct labor hours worked is not a suitable cost driver for direct materials.

Feedback C: The number of machine hours worked is not a suitable cost driver for direct materials.

Feedback D: Correct! The number of units produced is a suitable cost driver for direct materials.

Feedback E: The number of employees is not a suitable cost driver for direct materials.

74. The choices below depict five costs of Garfield Industries and a possible driver for each cost. Which of these choices likely contains an inappropriate cost driver?

- A. Gasoline consumed; number of miles driven.
- B. Manufacturing overhead incurred in a heavily automated facility; direct labor hours.**
- C. Sales commissions; gross sales revenue.
- D. Building maintenance cost; building square footage.
- E. Human resources department cost; number of employees.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-07

Feedback A: This is an appropriate relationship between cost and driver.

Feedback B: Correct! Manufacturing overhead in a heavily automated facility would be inaccurately paired with direct labor hours as a cost driver.

Feedback C: This is an appropriate relationship between cost and driver.

Feedback D: This is an appropriate relationship between cost and driver.

Feedback E: This is an appropriate relationship between cost and driver.

75. What is the primary trade-off that an accountant must consider when deciding whether to identify cost drivers?

- A. Will the cost driver identification provide different costs for different purposes?
- B. Is the cost/benefit of the process reasonable for more accurate cost behavior obtained?**
- C. Will the cost relationships be too complex to understand?
- D. Will material-related drivers be more accurate than labor-related drivers?.
- E. There is no trade-off to consider when using cost drivers.

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Analyze*

*Difficulty: 3 Hard*

*Learning Objective: 02-07*

*Feedback A: This is not a primary trade-off.*

*Feedback B: Correct! Cost/benefit is the primary trade-off used when deciding whether to identify cost drivers.*

*Feedback C: This is not a primary trade-off.*

*Feedback D: This is not a primary trade-off.*

*Feedback E: This is not a primary trade-off.*

76. Variable costs are costs that:

- A. vary inversely with changes in activity.
- B. vary directly with changes in activity.**
- C. remain constant as activity changes.
- D. decrease on a per-unit basis as activity increases.
- E. increase on a per-unit basis as activity increases.

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-08*

*Feedback A: This is not a correct definition of variable costs.*

*Feedback B: Correct! It is true that variable costs are costs that vary directly with changes in activity.*

*Feedback C: This is not a correct definition of variable costs.*

*Feedback D: This is not a correct definition of variable costs.*

*Feedback E: This is not a correct definition of variable costs.*

77. As activity decreases, unit variable cost:

- A. increases proportionately with activity.
- B. decreases proportionately with activity.
- C. remains constant.**
- D. increases by a fixed amount.
- E. decreases by a fixed amount.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-08

Feedback A: This is not a correct definition of unit variable costs.

Feedback B: This is not a correct definition of unit variable costs.

Feedback C: Correct! This is a correct definition of unit variable cost.

Feedback D: This is not a correct definition of unit variable costs.

Feedback E: This is not a correct definition of unit variable costs.

78. As activity increases, unit variable cost:

- A. increases proportionately with activity.
- B. decreases proportionately with activity.
- C. remains constant.**
- D. increases by a fixed amount.
- E. decreases by a fixed amount.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-08

Feedback A: This is not a correct definition of unit variable costs.

Feedback B: This is not a correct definition of unit variable costs.

Feedback C: Correct! This is a correct definition of unit variable costs.

Feedback D: This is not a correct definition of unit variable costs.

Feedback E: This is not a correct definition of unit variable costs.

79. Which of the following is **not** an example of a variable cost?

- A. Straight-line depreciation on a machine that has a five-year service life.
- B. Wages of manufacturing workers whose pay is based on hours worked.
- C. Tires used in the production of tractors.
- D. Aluminum used to make patio furniture.
- E. Commissions paid to sales personnel.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-08

Feedback A: Correct! Straight-line depreciation on a machine is not an example of a variable cost.

Feedback B: Wages based on hours worked is a variable cost.

Feedback C: Tires used in the production of tractors is a variable cost.

Feedback D: Aluminum used to make patio furniture is a variable cost.

Feedback E: Commissions paid to sales personnel is a variable cost.

80. Fixed costs are costs that:

- A. vary directly with changes in activity.
- B. vary inversely with changes in activity.
- C. remain constant on a per-unit basis.
- D. remain constant as activity changes.
- E. increase on a per-unit basis as activity increases.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-08

Feedback A: This is not an accurate definition of fixed costs.

Feedback B: This is not an accurate definition of fixed costs.

Feedback C: This is not an accurate definition of fixed costs.

Feedback D: Correct! It is true that fixed costs remain constant as activity changes.

Feedback E: This is not an accurate definition of fixed costs.

81. The fixed cost per unit:

- A. will increase as activity increases.
- B. will decrease as activity decreases.
- C. will decrease as activity remains constant.
- D. will remain constant.
- E. will increase as activity decreases and will decrease as activity increases.**

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-08*

*Feedback A: This is not the correct relationship shown by fixed cost per unit.*

*Feedback B: This is not the correct relationship shown by fixed cost per unit.*

*Feedback C: This is not the correct relationship shown by fixed cost per unit.*

*Feedback D: This is not the correct relationship shown by fixed cost per unit.*

*Feedback E: Correct! The fixed cost per unit will increase as activity decreases and will decrease as activity increases.*

82. Which of the following is an example of a fixed cost?

- A. Paper used in the manufacture of textbooks.
- B. Property taxes paid by a firm to a large city.**
- C. The wages of part-time workers who are paid \$8 per hour.
- D. Gasoline consumed by salespersons' cars.
- E. Surgical supplies used in a hospital's operating room.

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 02-08*

*Feedback A: This is a variable cost.*

*Feedback B: Correct! Property taxes are an example of fixed costs.*

*Feedback C: This is a variable cost.*

*Feedback D: This is a variable cost.*

*Feedback E: This is not a fixed cost.*



83. The true statement about cost behavior is that:

- A. variable costs are constant on a per-unit basis and change in total as activity changes.
- B. fixed costs are constant on a per-unit basis and change in total as activity changes.
- C. fixed costs are constant on a per-unit basis and constant in total as activity changes.
- D. variable costs change on a per-unit basis and change in total as activity changes.
- E. variable costs are constant on a per-unit basis and are constant in total as activity changes.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-08

Feedback A: Correct! Variable costs are constant on a per-unit basis and they change in total as activity changes.

Feedback B: This statement incorrectly depicts fixed costs.

Feedback C: This statement incorrectly depicts fixed costs.

Feedback D: This statement incorrectly depicts variable costs.

Feedback E: This statement incorrectly depicts variable costs.

84. The true statement about cost behavior is that:

- A. variable costs change on a per-unit basis and change in total as activity changes.
- B. fixed costs are constant on a per-unit basis and change in total as activity changes.
- C. fixed costs are constant on a per-unit basis and are constant in total as activity changes.
- D. fixed costs change on a per-unit basis and are constant in total as activity changes.
- E. variable costs are constant on a per-unit basis and are constant in total as activity changes.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-08

Feedback A: This statement is incorrect regarding cost behavior.

Feedback B: This statement is incorrect regarding cost behavior.

Feedback C: This statement is incorrect regarding cost behavior.

Feedback D: Correct! It is true that fixed costs change on a per-unit basis and are constant in total as activity changes.

Feedback E: This statement is incorrect regarding cost behavior.

85. The relevant range for Maxco Industries is 10,000 to 16,000 units of product. The variable costs per unit are \$6 when a company produces 12,000 units of product. What are the variable costs per unit when 14,000 units are produced?

- A. \$4.50.
- B. \$5.00.
- C. \$5.50.
- D.** \$6.00.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08

Feedback A: This answer is incorrect.

Feedback B: This answer is incorrect.

Feedback C: This answer is incorrect.

Feedback D: Correct! The variable costs per unit are \$6 per unit for 12,000 units of product and \$6 per unit for 14,000 units as long as both are within the relevant range.

Feedback E: This answer is incorrect, because there is a correct answer listed.

86. The fixed costs per unit are \$10 when a company produces 10,000 units of product. What are the fixed costs per unit when 8,000 units are produced?

- A.** \$12.50.
- B. \$10.00.
- C. \$8.00.
- D. \$6.50.
- E. \$5.50.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Bloom's: Apply

Difficulty: Medium

Learning Objective: 02-08

Feedback A: Correct! Fixed costs per unit = Total fixed costs based on 10,000 units ÷ new level of 8,000 units =  $(\$10 \times 10,000) \div 8,000 = \$12.50$  per unit

Feedback B: This answer is incorrect.

Feedback C: This answer is incorrect.

Feedback D: This answer is incorrect.

Feedback E: This answer is incorrect.

87. Total costs are \$180,000 when 10,000 units are produced; of this amount, variable costs are \$64,000. What are the total costs when 13,000 units are produced?

**A.** \$199,200.

B. \$214,800.

C. \$234,000.

D. None of the answers is correct.

E. Total costs cannot be calculated based on the information presented.

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Bloom's: Apply*

*Difficulty: Medium*

*Learning Objective: 02-08*

*Feedback A: Correct! Variable cost per unit =  $\$64,000 \div 10,000 = \$6.40$ ; Fixed costs =  $\$180,000 - \$64,000 = \$116,000$ ; Total costs =  $(13,000 \times \$6.40) + \$116,000 = \$199,200$ .*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This answer is incorrect, because there is a correct answer listed.*

*Feedback E: There is sufficient information to calculate total costs.*

88. When 5,000 units are produced variable costs are \$35 per unit and total costs are \$200,000. What are the total costs when 8,000 units are produced?

A. \$200,000.

**B.** \$305,000.

C. \$240,000.

D. None of the answers is correct.

E. Total costs cannot be calculated based on the information presented.

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Apply*

*Difficulty: 3 Hard*

*Learning Objective: 02-08*

*Feedback A: This amount is incorrect.*

*Feedback B: Correct! Total costs = Variable costs for 8,000 units + Fixed costs (or total costs – variable costs) =  $(\$35 \times 8,000) + [\$200,000 - (\$35 \times 5,000)] = \$305,000$*

*Feedback C: This amount is incorrect.*

*Feedback D: This answer is incorrect, because there is a correct answer listed.*

*Feedback E: There is sufficient information to calculate total costs.*

89. Collins Company, which pays a 10% commission to its salespeople, reported sales revenues of \$210,000 for the period just ended. If fixed and variable sales expenses totaled \$56,000, what would these expenses total at sales of \$168,000?

- A. \$16,800.
- B. \$35,000.
- C. \$44,800.
- D.** \$51,800.
- E. None of the answers is correct.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08

Feedback A: This amount is incorrect.

Feedback B: This amount is incorrect.

Feedback C: This amount is incorrect.

Feedback D: Correct! Total expenses for \$168,000 sales level = Fixed and variable – commission for previous period + commission for current period = [ $\$56,000 - (\$210,000 \times 10\%)$ ] +  $(\$168,000 \times 10\%) = \$51,800$

Feedback E: This answer is incorrect, because there is a correct numerical answer listed.

90. How would a 5% sales commission paid to sales personnel be classified in a manufacturing company?

- A. Fixed, period cost.
- B. Fixed, product cost.
- C.** Variable, period cost.
- D. Variable, product cost.
- E. Direct labor, product cost.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08

Feedback A: This is not the appropriate classification for a sales commission.

Feedback B: This is not the appropriate classification for a sales commission.

Feedback C: Correct! A sales commission would be a variable, period cost.

Feedback D: This is not the appropriate classification for a sales commission.

Feedback E: This is not the appropriate classification for a sales commission.

91. Which of the following would **not** be characterized as a cost object?

- A. An vehicle manufactured by an automobile manufacturer.
- B. A large city's fire department.
- C. A fast food restaurant located in a Midwest town.
- D. A regional airline flight from Atlanta to Miami.
- E.** All of these are examples of cost objects.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Decision Making

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-09

Feedback A: This is a cost object, but there is a better answer choice.

Feedback B: This is a cost object, but there is a better answer choice.

Feedback C: This is a cost object, but there is a better answer choice.

Feedback D: This is a cost object, but there is a better answer choice.

Feedback E: Correct! All of the examples listed are cost objects.

92. Costs that can be easily traced to a specific department are called:

- A.** direct costs.
- B. indirect costs.
- C. product costs.
- D. manufacturing costs.
- E. processing costs.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-09

Feedback A: Correct! Costs that can be easily traced to a specific department are called direct costs.

Feedback B: This is not the correct term for costs that can be easily traced to a specific department.

Feedback C: This is not the correct term for costs that can be easily traced to a specific department.

Feedback D: This is not the correct term for costs that can be easily traced to a specific department.

Feedback E: This is not the correct term for costs that can be easily traced to a specific department.

93. Which of the following would **not** be considered a direct cost with respect to the service department of a new car dealership?

- A. Wages of repair technicians.
- B. Property taxes paid by the dealership.**
- C. Repair parts consumed.
- D. Salary of the department manager.
- E. Depreciation on new equipment used to analyze engine problems.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-09

Feedback A: This is a direct cost.

Feedback B: Correct! Property taxes are not considered to be a direct cost.

Feedback C: This is a direct cost.

Feedback D: This is a direct cost.

Feedback E: This is a direct cost.

94. Indirect costs:

- A. can be traced to a cost object.
- B. cannot be traced to a particular cost object.**
- C. are not important.
- D. are always variable costs.
- E. may be indirect with respect to theme park but direct with respect to one of its major attractions or rides.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-09

Feedback A: This is an inaccurate description of indirect costs.

Feedback B: Correct! It is true that indirect costs cannot be traced to a particular cost object.

Feedback C: This is an inaccurate description of indirect costs.

Feedback D: This is an inaccurate description of indirect costs.

Feedback E: This is an inaccurate description of indirect costs.

95. Which two terms below best describe the wages paid to security guards that monitor a factory 24 hours a day?

- A. variable cost and direct cost
- B. fixed cost and direct cost
- C. variable cost and indirect cost
- D. fixed cost and indirect cost**
- E. value-added cost and direct cost

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-09

Feedback A: These terms do not correctly describe the security guard wages at a factory.

Feedback B: These terms do not correctly describe the security guard wages at a factory.

Feedback C: These terms do not correctly describe the security guard wages at a factory.

Feedback D: Correct! Fixed and indirect are two terms to describe the security guard wages at a factory.

Feedback E: These terms do not correctly describe the security guard wages at a factory.

96. Which one of the following costs would **not** be considered an indirect cost of serving a customer at a fast food restaurant?

- A. the cost of the hamburger patty in the burger the customer orders.**
- B. the wages of the employee who cleans the tables.
- C. the cost of heating and lighting the kitchen.
- D. the salary of the restaurant's manager.
- E. the steam cleaning service for the grill vent.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-09

Feedback A: Correct! The cost of a hamburger patty would be a direct cost.

Feedback B: This is an indirect cost.

Feedback C: This is an indirect cost.

Feedback D: This is an indirect cost.

Feedback E: This is an indirect cost.

97. The salary that is sacrificed by a college student who pursues a degree full time is a(n):

- A. sunk cost.
- B. out-of-pocket cost.
- C. opportunity cost.**
- D. differential cost.
- E. marginal cost.

*AACSB: Reflective Thinking*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-10*

*Feedback A: The salary sacrificed is not a sunk cost.*

*Feedback B: The salary sacrifice is not an out-of-pocket cost.*

*Feedback C: Correct! The salary sacrificed is an opportunity cost.*

*Feedback D: The salary sacrificed is not a differential cost.*

*Feedback E: The salary sacrificed is not a marginal cost.*

98. The tuition that will be paid next semester by a college student who pursues a degree is a(n):

- A. sunk cost.
- B. out-of-pocket cost.**
- C. indirect cost.
- D. average cost.
- E. marginal cost.

*AACSB: Reflective Thinking*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 02-10*

*Feedback A: The tuition paid is not a sunk cost.*

*Feedback B: Correct! The tuition paid would be out-of-pocket costs .*

*Feedback C: The tuition paid is not an indirect cost.*

*Feedback D: The tuition paid is not an average cost.*

*Feedback E: The tuition paid is not a marginal cost.*



99. Which of the following costs should be ignored when choosing among alternatives?

- A. Opportunity costs.
- B. Sunk costs.**
- C. Out-of-pocket costs.
- D. Differential costs.
- E. None of the answers is correct.

AACSB: Reflective Thinking

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-10

Feedback A: Opportunity costs are not costs that should be ignored when choosing among alternatives.

Feedback B: Correct! Costs that should be ignored when choosing among alternatives are sunk costs.

Feedback C: Out-of-pocket costs are not costs that should be ignored when choosing among alternatives.

Feedback D: Differential costs are not costs that should be ignored when choosing among alternatives.

Feedback E: This answer is incorrect, because there is a correct answer listed.

100. If the total cost of alternative A is \$50,000 and the total cost of alternative B is \$34,000, then \$16,000 is termed the:

- A. opportunity cost.
- B. average cost.
- C. sunk cost.
- D. out-of-pocket cost.
- E. differential cost.**

AACSB: Reflective Thinking

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-10

Feedback A: The difference between alternative A and alternative B total costs is not an opportunity cost.

Feedback B: The difference between alternative A and alternative B total costs is not an average cost.

Feedback C: The difference between alternative A and alternative B total costs is not a sunk cost.

Feedback D: The difference between alternative A and alternative B total costs is not an out-of-pocket cost.

Feedback E: Correct! The difference between alternative A and alternative B total costs is the differential cost.

Use the following information to answer Questions 101 and 102.

Play Time is a nursery school for pre-kindergarten children. The school has determined that the following biweekly revenues and costs occur at different levels of enrollment:

<u>Number of Students Enrolled</u>	<u>Total Revenue</u>	<u>Total Costs</u>
10	\$3,000	\$2,100
15	4,500	2,700
16	4,800	2,800
20	6,000	3,200
21	6,300	3,255

101. The marginal cost when the twenty-first student enrolls in the school is:

- A.** \$55.
- B. \$155.
- C. \$300.
- D. \$3,045.
- E. \$3,255.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-10

Feedback A: Correct! Difference between costs for 21 and 20 students:  $\$3,255 - \$3,200 = \$55$

Feedback B: This is not the marginal cost between 20 and 21 students enrolling.

Feedback C: This is not the marginal cost between 20 and 21 students enrolling.

Feedback D: This is not the marginal cost between 20 and 21 students enrolling.

Feedback E: This is not the marginal cost between 20 and 21 students enrolling.

102. The average cost per student when 16 students enroll in the school is:

- A. \$100.
- B. \$125.
- C. \$175.**
- D. \$300.
- E. \$400.

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-10

Feedback A: This is not the average cost per student based on 16 enrolled students.

Feedback B: This is not the average cost per student based on 16 enrolled students.

Feedback C: Correct! Cost for 16 students ÷ 16 students = \$2,800 ÷ 16 = \$175 average cost.

Feedback D: This is not the average cost per student based on 16 enrolled students.

Feedback E: This is not the average cost per student based on 16 enrolled students.

103. The costs that follow all have applicability for a manufacturing enterprise. Which of the choices listed correctly denotes the costs' applicability for a service provider?

	<b><u>Period Cost</u></b>	<b><u>Uncontrollable Cost</u></b>	<b><u>Opportunity Cost</u></b>
A.	Applicable	Applicable	Not applicable
B.	Applicable	Not applicable	Applicable
<b>C.</b>	Applicable	Applicable	Applicable
D.	Not applicable	Applicable	Applicable
E.	Not applicable	Applicable	Not applicable

AACSB: Reflective Thinking

AICPA BB: Industry

AICPA FN: Measurement

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-10

Feedback A: This choice regarding the costs' applicability for a service provider is incorrect.

Feedback B: This choice regarding the costs' applicability for a service provider is incorrect.

Feedback C: Correct! Period, uncontrollable, and opportunity costs are all applicable to a service provider.

Feedback D: This choice regarding the costs' applicability for a service provider is incorrect.

Feedback E: This choice regarding the costs' applicability for a service provider is incorrect.

**Essay Questions**

104. Travon and Tony (T & T) Enterprises has a single facility that it uses for manufacturing, sales, and administrative activities. Should the company's building depreciation charge be expensed in its entirety or is a different accounting procedure appropriate? Explain.

**Solution:**

The company's depreciation charge is, in part, a period cost and, in part, a product cost. The portion that relates to selling and administrative activities should be expensed when incurred. In contrast, the portion that relates to manufacturing should be attached to the goods produced, with the costs now inventoried on the balance sheet.

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Evaluate*  
*Difficulty: 3 Hard*  
*Learning Objective: 02-02*

105. Manufacturers have established a cost classification called product costs. Define the term "product cost" and note where these costs appear in the financial statements. Be specific.

**Solution:**

Product costs are costs that relate to the manufacturing process and consist of direct materials, direct labor, and manufacturing overhead. Simply stated, these are costs incurred to make a product.

Product costs are attached to the units produced (i.e., work in process) and, thus, inventoried on the balance sheet. These costs are later charged to finished goods when the goods are completed. Another transfer occurs when the finished units are sold, with the costs now transferred to cost of goods sold on the income statement.

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Reporting*  
*Blooms: Understand*  
*Difficulty: 2 Medium*  
*Learning Objective: 02-02*  
*Learning Objective: 02-05*

106. Consider the three firms that follow: (1) a regional airline, (2) an automobile manufacturer, and (3) a discount retail store. These firms, examples of service providers, manufacturers, and merchandisers, tend to have different characteristics with respect to costs and financial-statement disclosures.

**Required:**

Determine which of the preceding firms (1, 2, and/or 3) would likely:

- A. Disclose operating expenses on the income statement.
- B. Have product costs.
- C. Have period costs.
- D. Disclose cost of goods sold on the income statement.
- E. Have no meaningful investment in inventory.
- F. Maintain raw-material, work-in-process, and finished-goods inventories.
- G. Have variable and fixed costs.

**Solution:**

- A. 1, 2, 3
- B. 2, 3
- C. 1, 2, 3
- D. 2, 3
- E. 1
- F. 2
- G. 1, 2, 3

*AACSB: Reflective Thinking*  
*AICPA BB: Industry*  
*AICPA FN: Reporting*  
*Blooms: Analyze*  
*Difficulty: 3 Hard*  
*Learning Objective: 02-02*  
*Learning Objective: 02-03*  
*Learning Objective: 02-08*

107. Colton Manufacturing produces small electric engines.

**Required:**

Identify the following costs as direct materials (DM), direct labor (DL), manufacturing overhead (MOH), or a period cost (PC). Also indicate whether the cost is variable (V) or fixed (F) with respect to behavior.

- A. Commissions paid to salespeople
- B. Straight-line depreciation on the factory building
- C. Salary of the plant supervisor
- D. Wages of the assembly-line workers
- E. Machine lubricant used in production activities
- F. Engine casings used in production activities
- G. Advertising placed in trade journals
- H. Lease payments for the president's automobile
- I. Property taxes paid on the factory facilities

**Solution:**

- A. PC, V
- B. MOH, F
- C. MOH, F
- D. DL, V
- E. MOH, V
- F. DM, V
- G. PC, F
- H. PC, F
- I. MOH, F

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Analyze*  
*Difficulty: 3 Hard*  
*Learning Objective: 02-02*  
*Learning Objective: 02-05*  
*Learning Objective: 02-08*

108. Consider the following items:

- A. Tomatoes used in the manufacture of ketchup
- B. Administrative salaries of executives employed by a regional airline
- C. Wages of assembly-line workers at an automobile manufacturing plant
- D. Marketing expenditures of the major league baseball club
- E. Commissions paid to the salespeople working for a soft drink company
- F. Straight-line depreciation on manufacturing equipment owned by a computer manufacturer
- G. Shipping charges incurred by office supplies retailer on out-going orders
- H. Speakers used in a consumer electronics company's home-theater systems
- I. Insurance costs related to a cosmetics manufacturing plant

**Required:**

Complete the table that follows and classify each of the costs listed as (1) a product or period cost and (2) a variable or fixed cost by placing an "X" in the appropriate column.

<u>Item</u>	<u>Product or Period Cost</u>		<u>Variable or Fixed Cost</u>	
	<u>Product</u>	<u>Period</u>	<u>Variable</u>	<u>Fixed</u>
A				
B				
C				
D				
E				
F				
G				
H				
I				

**Solution:**

<b><u>Item</u></b>	<b><u>Product or Period Cost</u></b>		<b><u>Variable or Fixed Cost</u></b>	
	<b><u>Product</u></b>	<b><u>Period</u></b>	<b><u>Variable</u></b>	<b><u>Fixed</u></b>
A	X		X	
B		X		X
C	X		X	
D		X		X
E		X	X	
F	X			X
G		X	X	
H	X		X	
I	X			X

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Analyze*  
*Difficulty: 3 Hard*  
*Learning Objective: 02-02*  
*Learning Objective: 02-05*  
*Learning Objective: 02-08*



109. The following selected costs were extracted from the accounting records of Louisiana Machining (LAM):

1. Direct materials used in production
2. Wages of machine operators
3. Factory utilities
4. Sales commissions
5. Salary of LAM's president
6. Factory depreciation
7. Wages of plant security guards
8. Uncollectible accounts expense
9. Machine lubricant used in production

- A. 1, 2, 3, 6, 7, 9
- B. 3, 6, 7, 9
- C. 4, 5, 8
- D. 2, 3, 6, 7, 9
- E. 8
- F. 1, 2, 3, 6, 7, 9

**Required:**

By the use of numbers, identify the costs that would be used to calculate:

**Solution:**

- A. cost of goods manufactured.
- B. manufacturing overhead.
- C. total period costs.
- D. total conversion costs.
- E. total direct costs of LAM's credit and collections department.
- F. LAM's inventory cost.

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Analyze*  
*Difficulty: 3 Hard*  
*Learning Objective: 02-02*  
*Learning Objective: 02-05*  
*Learning Objective: 02-06*  
*Learning Objective: 02-09*

110. The income statements and balance sheets of service, retailing, and manufacturing businesses tend to differ.

**Required:**

- A. Which of these businesses will disclose a cost-of-goods-sold figure on the income statement? Why?
- B. Briefly describe the difference between a retailing firm and a manufacturer's disclosure of inventories on the balance sheet.

**Solution:**

A. Retailers and manufacturers will disclose a cost-of-goods-sold figure because both of these entities sell goods. Service businesses, in contrast, do not, given that such firms provide services.

B. A retailer will typically disclose inventories as a one-line item entitled merchandise inventories. Manufacturers, on the other hand, carry three different types of inventories: raw materials, work in process, and finished goods.

*AACSB: Analytic*  
*AICPA BB: Industry*  
*AICPA FN: Reporting*  
*Bloom's: RC*  
*Difficulty: Medium*  
*Learning Objective: 02-03*

111. Consider the following cost items:

1. Sales commissions earned by a company's sales force.
2. Raw materials purchased during the period.
3. Current year's depreciation on a firm's manufacturing facilities.
4. Year-end completed production of a carpet manufacturer.
5. The cost of products sold to customers of an apparel store.
6. Wages earned by machine operators in a manufacturing plant.
7. Income taxes incurred by an airline.
8. Marketing costs of an electronics manufacturer.
9. Indirect labor costs incurred by a manufacturer of office equipment.

**Required:**

- A. Evaluate the costs just cited and determine whether the associated dollar amounts would appear on the firm's balance sheet, income statement, or schedule of cost of goods manufactured.
- B. What major asset will normally be insignificant for service enterprises and relatively substantial for retailers, wholesalers, and manufacturers? Briefly discuss.
- C. Briefly explain the similarity and difference between the merchandise inventory of a retailer and the finished-goods inventory of a manufacturer.

**Solution:**

A.

1. Income statement
2. Schedule of cost of goods manufactured
3. Schedule of cost of goods manufactured
4. Balance sheet
5. Income statement
6. Schedule of cost of goods manufactured
7. Income statement
8. Income statement
9. Schedule of cost of goods manufactured

B. The asset that differs among these businesses is inventory. Service businesses typically carry no (or very little) inventory. Retailers and wholesalers normally stock considerable inventory. Manufacturers also carry significant inventories, typically subdivided in three categories: raw materials, work in process, and finished goods.

C. The similarity: Both inventories are carried for sale by the respective businesses. The difference: Retailers purchase merchandise inventory; in contrast, manufacturing firms produce their goods.

*AACSB: Reflective Thinking*

*AICPA BB: Industry*

*AICPA FN: Reporting*

*Blooms: Analyze*

*Difficulty: 3 Hard*

*Learning Objective: 02-03*

*Learning Objective: 02-06*

112. Briefly define and discuss the terms in each of the pairs that follow.

- A. Direct and indirect costs
- B. Direct materials and indirect materials
- C. Manufacturing overhead and direct labor

**Solution:**

A. Direct costs are logically and practically related (i.e., easily traceable) to a particular cost object. An indirect cost, on the other hand, is not. Whether a cost is direct or indirect depends on the cost object under consideration. A cost may be easily traceable to a company, for example, but not easily traced to a department of that firm.

B. Direct materials form an integral part of the finished product and, at the same time, are easily traced to that product. Indirect materials, which are part of manufacturing overhead, generally do not meet these guidelines. Note, though, that some indirect material may be easily traced to the product (e.g., five squirts of wood glue in a piece of furniture) but it may be too costly to do so.

C. Manufacturing overhead consists of indirect materials, indirect labor, plant depreciation, factory utilities, and other factory-related costs. This cost component reflects all manufacturing costs other than direct materials and direct labor. Direct labor, in contrast, consists of wages of those employees who work directly on the goods in production (machine operators, assembly-line workers, and so forth).

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Understand*  
*Difficulty: 2 Medium*  
*Learning Objective: 02-05*  
*Learning Objective: 02-09*

113. The following selected information was extracted from the 20x3 accounting records of Farrina Products:

Raw materials used	\$284,000
Direct labor	178,000
Indirect labor	35,000
Selling and administrative salaries	250,000
Building depreciation*	330,000
Other selling and administrative expenses	80,000
Other factory costs	620,000

\*Seventy percent of the company's building was devoted to production activities; the remaining 30% was used for selling and administrative functions.

Farrina's beginning and ending work-in-process inventories amounted to \$306,000 and \$245,000, respectively. The company's beginning and ending finished-goods inventories were \$450,000 and \$440,000, respectively.

**Required:**

- Calculate Farrina's manufacturing overhead for the year.
- Calculate Farrina's cost of goods manufactured.
- Compute Farrina's cost of goods sold.

**Solution:**

The answers include:

$$\text{A. Manufacturing overhead} = \$35,000 + (\$330,000 \times .7) + \$620,000 = \mathbf{\$886,000}$$

$$\text{B. COGM} = \$306,000 + \$1,348,000 (\$284,000 + \$178,000 + \$886,000) = \$1,654,000 - 245,000 = \mathbf{\$1,409,000}$$

$$\text{C. COGS} = \$450,000 + \$1,409,000 = \$1,859,000 - \$440,000 = \mathbf{\$1,419,000}$$

AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 02-05  
Learning Objective: 02-06

114. Miao Manufacturing, which began operations on January 1 of the current year, produces an industrial scraper that sells for \$325 per unit. Information related to the current year's activities follows.

Number of scrapers produced	20,000
Number of scrapers sold	17,000
Variable costs per unit:	
Direct materials	\$25
Direct labor	35
Manufacturing overhead	60
Annual fixed costs:	
Manufacturing overhead	\$400,000
Selling and administrative	140,000

Miao carries its finished-goods inventory at the average unit cost of production. There was no work in process at year-end.

**Required:**

- A. Compute the company's average unit cost of production.
- B. Determine the cost of the December 31 finished-goods inventory.
- C. Compute the company's cost of goods sold.
- D. If next year's production increases to 23,000 units and general cost behavior patterns do not change, what is the likely effect on:
  1. The direct-labor cost of \$35 per unit? Why?
  2. The fixed manufacturing overhead cost of \$400,000? Why?

**Solution:**

A.	
Fixed manufacturing overhead per unit:	
(\$400,000 ÷ 20,000 scrapers produced =	\$20
Average manufacturing unit cost:	
Direct materials	\$25
Direct labor	35
Variable manufacturing overhead	60
Fixed manufacturing overhead	20
Average unit cost	<u>\$140</u>
B. Production (units)	20,000
Sales (units)	<u>17,000</u>
Ending finished-goods inventory (units)	<u>3,000</u>
3,000 x \$140 = \$420,000	
C. Finished Goods, Jan. 1	\$ -----
Add: Cost of Goods Manufactured (20,000 x \$140)	<u>2,800,000</u>
Cost of goods available for sale	\$ 2,800,000
Deduct: Finished Goods, Dec. 31	<u>420,000</u>
Cost of goods sold	<u>\$ 2,380,000</u>

- D. 1. No change. Direct labor is a variable cost, and the cost per unit will remain constant.  
 2. No change. Despite the increase in the number of units produced, this is a fixed cost, which remains the same in total.

AACSB: Analytic  
 AICPA BB: Critical Thinking  
 AICPA FN: Measurement  
 Blooms: Evaluate  
 Difficulty: 3 Hard  
 Learning Objective: 02-05  
 Learning Objective: 02-06  
 Learning Objective: 02-08

115. Portland Manufacturing had the following data for the period just ended:

Work in process, Jan. 1	\$ 21,000
Work in process, Dec. 31	40,000
Finished goods, Jan. 1	70,000
Finished goods, Dec. 31	61,000
Direct materials used	126,000
Direct labor	260,000
Factory depreciation	80,000
Sales	945,000
Advertising expense	52,000
Factory utilities	27,000
Indirect materials	19,000
Indirect labor	35,000

**Required:**

- A. Calculate Portland's cost of goods manufactured.
- B. Calculate Portland's cost of goods sold.



**Solution:**

A.	
Direct material used	\$ 126,000
Direct labor	260,000
Manufacturing overhead:	
Factory Depreciation	80,000
Factory Utilities	27,000
Indirect materials	19,000
Indirect labor	<u>35,000</u>
Total manufacturing costs	\$ 547,000
Add: Work in process, Jan. 1	<u>21,000</u>
	\$568,000
Deduct: Work in process, Dec. 31	<u>40,000</u>
Cost of goods Manufactured	<u>\$ 528,000</u>
B. Finished Goods, Jan. 1	\$ 70,000
Add: Cost of Goods Manufactured	<u>528,000</u>
Cost of goods available for sale	\$ 598,000
Finished Goods, Dec. 31	<u>61,000</u>
Cost of goods sold	<u>\$ 537,000</u>

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-06

116. Tao Company had the following inventory balances at the beginning and end of the year:

	<b>January 1</b>	<b>December 31</b>
Raw material	\$50,000	\$35,000
Work in process	130,000	170,000
Finished goods	280,000	255,000

During the year, the company purchased \$100,000 of raw material and incurred \$340,000 of direct labor costs. Other data: manufacturing overhead incurred, \$450,000; sales, \$1,560,000; selling and administrative expenses, \$90,000; income tax rate, 30%.

**Required:**

- A. Calculate cost of goods manufactured.
- B. Calculate cost of goods sold.
- C. Determine Tao's net income.

**Solution:**

A. Direct materials used:		
Raw materials, Jan. 1	\$ 50,000	
Add: Purchases	<u>100,000</u>	
Raw materials available for use	\$150,000	
Deduct: Raw material, Dec. 31	<u>35,000</u>	
Raw material used		\$ 115,000
Direct labor		340,000
Manufacturing overhead		<u>450,000</u>
Total manufacturing costs		\$ 905,000
Add: Work in process, Jan. 1		<u>130,000</u>
		\$1,035,000
Deduct: Work in process, Dec. 31		<u>170,000</u>
Cost of goods manufactured		<u>\$ 865,000</u>
B. Finished Goods, Jan. 1		\$ 280,000
Add: Cost of Goods Manufactured		<u>865,000</u>
Cost of goods available for sale		\$1,145,000
Finished Goods, Dec. 31		<u>255,000</u>
Cost of goods sold		<u>\$ 890,000</u>
C. Sales Revenue		\$1,560,000
Less: Cost of goods sold		<u>890,000</u>
Gross Margin		\$ 670,000
Less: Selling and administrative expenses		<u>90,000</u>
Income before income taxes		\$ 580,000
Income tax expense (\$580,000 x 30%)		<u>174,000</u>
Net income		<u>\$ 406,000</u>

AACSB: Analytic  
 AICPA BB: Critical Thinking  
 AICPA FN: Measurement  
 Blooms: Apply  
 Difficulty: 3 Hard  
 Learning Objective: 02-06

117. The selected amounts that follow were taken from Hawk Corporation's accounting records:

Raw materials used	\$ 27,000
Direct labor	35,000
Total manufacturing costs	104,000
Work-in-process inventory, Jan. 1	19,000
Cost of Goods Manufactured	100,000
Cost of goods available for sale	175,000
Finished goods inventory, Dec. 31	60,000
Sales revenue	300,000
Selling and administrative expenses	125,000
Income tax expense	18,000

**Required:**

Compute the following:

- A. Manufacturing overhead.
- B. Work-in-process inventory, 12/31.
- C. Finished-goods inventory, 1/1.
- D. Cost of goods sold.
- E. Gross margin.
- F. Net income.

**Solution:**

<b>A.</b>		
Total manufacturing costs		\$ 104,000
Less: Raw materials used	\$27,000	
Direct labor	<u>35,000</u>	<u>62,000</u>
Manufacturing overhead		<u>\$42,000</u>
<b>B.</b>		
Total manufacturing costs		\$ 104,000
Add: WIP inventory, 1/1		<u>19,000</u>
		\$123,000
Less: Cost of goods manufactured		<u>100,000</u>
WIP inventory, 12/31		<u>\$ 23,000</u>
<b>C.</b>		
Cost of goods available for sale		\$ 175,000
Less: Cost of goods manufactured		<u>100,000</u>
Finished goods inventory, 1/1		<u>\$ 75,000</u>
<b>D.</b>		
Cost of goods available for sale		\$ 175,000
Less: Finished goods inventory, 12/31		<u>60,000</u>
Cost of goods sold		<u>\$115,000</u>
<b>E.</b>		
Sales Revenue		\$ 300,000
Less: Cost of goods sold		<u>115,000</u>
Gross margin		<u>\$185,000</u>
<b>F.</b>		
Gross margin		\$185,000
Less: Selling and administrative expenses	\$125,000	
Income tax expense	<u>18,000</u>	<u>143,000</u>
Net income		<u>\$42,000</u>

AACSB: Analytic  
 AICPA BB: Critical Thinking  
 AICPA FN: Measurement  
 Blooms: Apply  
 Difficulty: 3 Hard  
 Learning Objective: 02-06

118. The Enrique Company recorded the following transactions for February 20x1:

	<u>Materials</u>	<u>Work in Process</u>	<u>Finished Goods</u>
Purchases	\$100,000		
Beginning inventory	180,000	\$ 8,000	\$ E
Ending inventory	A	30,000	30,000
Direct materials used		90,000	
Direct labor		B	
Manufacturing overhead (includes indirect materials used of \$10,000)		115,000	
Transferred to finished goods		C	
Cost of goods sold			D

Sales were \$560,000, with sales prices determined by adding a 40% markup to the firm's manufacturing cost. The total cost of direct materials used, direct labor, and manufacturing overhead during the month was \$285,000.

Note: The materials account includes both direct materials and indirect materials.

**Required:**

Calculate the missing values.

**Solution:**

<i>Item A.</i>	
Beginning materials	\$ 18,000
Add: Purchases	100,000
Less: Direct materials used	(90,000)
Less: Indirect materials used	<u>(10,000)</u>
Ending materials	<u>\$18,000</u>
<i>Item B.</i>	
Total production costs	\$ 285,000
Less: Direct materials used	(90,000)
Less: Manufacturing overhead	<u>(115,000)</u>
Direct labor	<u>\$ 80,000</u>
<i>Item C.</i>	
Beginning work in process	\$ 8,000
Add: Total production costs	285,000
Less: Ending work in process	<u>(20,000)</u>
Transferred to finished goods	<u>\$ 273,000</u>
<i>Item D.</i>	
Sales	\$560,000
Divided by rate	<u>÷140%</u>
Cost of goods sold	<u>\$400,000</u>
<i>Item E.</i>	
Ending finished goods	\$ 30,000
Add: Cost of goods sold	400,000
Less: Transferred to finished goods	<u>(273,000)</u>
Beginning finished goods	<u>\$ 157,000</u>

AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 02-06

119. Sylvia Corporation sold 12,500 units of its single product during the year, reporting a cost of goods sold that totaled \$250,000. A review of the company's accounting records disclosed the following information:

Cost of goods sold as a percentage of sales revenue	40%
Finished goods, Jan. 1	\$87,000
Work-in-process, Dec. 31	55,000
Cost of Goods Manufactured	241,000
Raw materials used	40,000
Direct labor	74,000
Manufacturing overhead	122,000
Selling and administrative expenses	310,000

Sylvia is subject to a 30% income tax rate.

**Required:**

- A. Determine the selling price per unit.
- B. Management established a goal at the beginning of the year to reduce the company's investment in finished-goods inventory and work-in-process inventory.
  1. Analyze cost of goods sold and determine if management's goal was achieved with respect to finished-goods inventory. Show computations.
  2. Analyze the firm's manufacturing costs and determine if management's goal was achieved with respect to work-in-process inventory. Show computations.
- C. Is the company profitable? Show calculations.



**Solution:**

A. Let X = sales revenue

$$0.4X = \$250,000$$

$$X = \$625,000$$

Sales revenue (\$625,000) ÷ units sold (12,500) = \$50 selling price

B.

1.	Cost of goods sold:	
	Finished goods, Jan. 1	\$ 87,000
	Add: Cost of goods manufactured	<u>241,000</u>
	Cost of good available for sale	\$328,000
	Deduct: Finished goods, Dec. 31	<u>???????</u>
	Cost of goods sold	<u>\$250,000</u>

Ending finished-goods inventory totals \$78,000 (\$328,000 - \$250,000), which means that inventory was reduced by \$9,000 (\$87,000 - \$78,000) and management was successful in achieving its goal.

2.	Cost of goods manufactured:	
	Raw materials used	\$ 40,000
	Direct labor	74,000
	Manufacturing overhead	<u>122,000</u>
	Total manufacturing costs	\$ 236,000
	Add: Work in process, Jan. 1	<u>????????</u>
		<u>\$????????</u>
	Deduct: Work in process, Dec. 31	<u>55,000</u>
	Cost of Goods manufactured	<u>\$ 241,000</u>

Let X = work in process, Jan. 1

$$\$236,000 + X - \$55,000 = \$241,000$$

$$X = \$60,000$$

Yes, management achieved its goal because work-in-process inventory fell by \$5,000 (\$60,000 - \$55,000).

C.

Sales Revenue	\$ 625,000
Less: Cost of Goods sold	<u>250,000</u>
Gross Margin	\$ 375,000
Less: Selling and administrative expenses	<u>310,000</u>
Income before taxes	\$ 65,000
Income tax expense (\$65,000 x 30%)	<u>19,500</u>
Net income	<u>\$ 45,500</u>
Yes, the company is profitable.	

AACSB: Analytic  
 AICPA BB: Critical Thinking  
 AICPA FN: Measurement  
 Blooms: Evaluate  
 Difficulty: 3 Hard  
 Learning Objective: 02-06

120. Hernandez Systems began business on January 1 of the current year, producing a single product that is popular with home builders. Demand was very strong, allowing the company to sell its entire manufacturing output of 80,000 units. The following unit costs were incurred:

Manufacturing costs:	
Direct materials	\$15
Direct labor	8
Variable overhead	11
Fixed overhead	6
Selling and administrative costs:	
Variable	5
Fixed	2

Hernandez anticipates an increase in productive output to 100,000 units and sales of 95,000 units in the next accounting period. The company uses appropriate drivers to determine cost behavior and estimates.

**Required:**

A. Assuming that present cost behavior patterns continue, compute the total expected costs in the upcoming accounting period.

B. Jan Compton is about to prepare a graph that shows the unit cost behavior for variable selling and administrative cost. If the graph's horizontal axis is volume and the vertical axis is dollars, briefly describe what Compton's graph should look like.

C. Determine whether the following costs are variable or fixed in terms of behavior:

1. Yearly lease payments for a state-of-the-art cutting machine.
2. A fee paid to a consultant who provided advice about quality issues. The fee was based on the number of consulting hours provided.
3. Cost of an awards dinner for "star" salespeople.

**Solution:**

A.

Direct materials (100,000 x \$15)	\$1,500,000
Direct labor (100,000 x \$8)	800,000
Variable overhead (100,000 x \$11)	1,100,000
Fixed overhead (80,000 x \$6)	480,000
Variable selling and administrative (95,000 x \$5)	475,000
Fixed selling and administrative (80,000 x \$2)	<u>160,000</u>
Total costs	<u>\$4,515,000</u>

B. The variable selling and administrative costs are constant at \$5 per unit. Thus, the graph is a straight, horizontal line.

- C. 1. Fixed
- 2. Variable
- 3. Variable

AACSB: Analytic  
 AICPA BB: Critical Thinking  
 AICPA FN: Measurement  
 Blooms: Evaluate  
 Difficulty: 3 Hard  
 Learning Objective: 02-07  
 Learning Objective: 02-08

121. Sebastian Muffler, Inc. operates an automobile service facility. The table below shows the cost incurred during a month when 500 mufflers were replaced.

	<b>Number of Muffler Replacements</b>		
	<b><u>400</u></b>	<b><u>500</u></b>	<b><u>600</u></b>
Total costs:			
Fixed costs	A	\$9,000	C
Variable costs	<u>B</u>	<u>6,000</u>	<u>D</u>
Total costs	<u>E</u>	<u>\$15,000</u>	<u>F</u>
Cost per muffler replacement:			
Fixed cost	G	H	I
Variable cost	<u>J</u>	<u>K</u>	<u>L</u>
Total cost per muffler replacement	<u>M</u>	<u>N</u>	<u>O</u>

**Required:**

Fill in the missing amounts, labeled A through O, in the table above.

**Solution:**

	<b>Number of Muffler Replacements</b>		
	<b><u>400</u></b>	<b><u>500</u></b>	<b><u>600</u></b>
Total costs:			
Fixed costs	\$9,000	\$9,000	\$9,000
Variable costs	<u>4,800</u>	<u>6,000</u>	<u>7,200</u>
Total costs	<u>\$13,800</u>	<u>\$15,000</u>	<u>\$16,200</u>
Cost per muffler replacement:			
Fixed cost	\$22.50	\$18.00	\$15.00
Variable cost	<u>12.00</u>	<u>12.00</u>	<u>12.00</u>
Total cost per muffler replacement	<u>\$34.50</u>	<u>\$30.00</u>	<u>\$27.00</u>

*Explanatory notes:*

A and C each equal \$9,000, since fixed costs do not vary with activity.

J, K, and L each equal \$12 ( $\$6,000 \div 500$ ), since variable cost per replacement remains constant.

B equals \$4,800 ( $400 \times \$12$ )

D equals \$7,200 ( $600 \times \$12$ )

G equals \$22.50 ( $\$9,000 \div 400$ )

H equals \$18.00 ( $\$9,000 \div 500$ )

I equals \$15.00 ( $\$9,000 \div 600$ )

*AACSB: Analytic*

*AICPA BB: Critical Thinking*

*AICPA FN: Measurement*

*Blooms: Analyze*

*Difficulty: 3 Hard*

*Learning Objective: 02-08*

122. In discussing the operation of her automobile, Dr. Lawson once observed that gasoline is a fixed cost because the cost per gallon is relatively stable. Insurance, on the other hand, is a variable cost because the cost per mile varies inversely with the number of miles driven. Comment on the Dr. Lawson's observation.

**Solution:**

Dr. Lawson's observations are incorrect, as gasoline is a variable cost and insurance is a fixed cost. Gasoline cost will increase with the number of miles driven, whereas insurance outlays will remain the same. The doctor seems to have confused the "total" perspective, as defined by accountants, with the notion of per-unit cost behavior.

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Analyze*  
*Difficulty: 3 Hard*  
*Learning Objective: 02-08*

123. The following terms are used to describe various economic characteristics of costs:

Opportunity cost	Differential cost
Out-of-pocket cost	Marginal cost
Sunk cost	Average cost

**Required:**

Choose one of the preceding terms to characterize each of the amounts described below. Each term may be used only once.

- A. The cost of including one extra child in a day-care center.
- B. The cost of merchandise inventory purchased five years ago. The goods are now obsolete.
- C. The cost of feeding 300 children in a public school cafeteria is \$450 per day, or \$1.50 per child per day. What economic term describes this \$1.50 cost?
- D. The management of a high-rise office building uses 3,000 square feet of space in the building for its own administrative functions. This space could be rented for \$30,000. What economic term describes this \$30,000 of lost rental revenue?
- E. The cost of building an automated assembly line in a factory is \$700,000; a manually operated assembly line would cost \$250,000. What economic term is used to describe the \$450,000 variation between these two amounts?
- F. Refer to the preceding question and assume that the firm is currently building the assembly line for \$700,000. What economic term is used to describe the \$700,000 construction cost?

**Solution:**

- A. Marginal cost
- B. Sunk cost
- C. Average cost
- D. Opportunity cost
- E. Differential cost
- F. Out-of-pocket cost

AACSB: Analytic  
 AICPA BB: Critical Thinking  
 AICPA FN: Measurement  
 Blooms: Apply  
 Difficulty: 3 Hard  
 Learning Objective: 02-10

124. Describe the economic characteristics of sunk costs and opportunity costs, and explain the impact that these costs may have on decisions.

**Solution:**

Sunk costs have already been incurred. They are part of history and cannot be altered. Therefore, sunk costs are not relevant for any current or future management decision. Opportunity costs, in contrast, are relevant for current and future decisions. Such costs are defined as the net benefits from a decision alternative that was not selected—that is, the benefits were sacrificed to pursue another option.

*AACSB: Analytic*  
*AICPA BB: Critical Thinking*  
*AICPA FN: Measurement*  
*Blooms: Understand*  
*Difficulty: 2 Medium*  
*Learning Objective: 02-10*