

## 02

*Student:* \_\_\_\_\_

1. 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.
  
2. 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.
  
3. Which of the following is a product cost for external financial reporting purposes?
  - A. Amortization of office equipment used by the CEO.
  - B. Advertising costs.
  - C. The salary paid to the Vice President of Finance.
  - D. Rent on a factory.
  - E. Sales commissions.
  
4. Which of the following is a period cost?
  - A. Direct materials.
  - B. Direct labour.
  - C. Indirect materials.
  - D. Insurance on a manufacturing plant.
  - E. Sales commissions.

5. The accounting records of Niagara Manufacturing Company revealed the following costs: direct materials used, \$120,000; direct labour, \$275,000; manufacturing overhead, \$350,000; and selling and administrative expenses, \$400,000. Niagara's product costs total:

- A. \$395,000.
- B. \$400,000.
- C. \$625,000.
- D. \$745,000.
- E. \$1,145,000.

6. Costs that are expensed when incurred are called:

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

7. Which of the following is a period cost?

- A. Direct material.
- B. Manufacturing overhead.
- C. Depreciation on cars driven by a firm's president and treasurer.
- D. Miscellaneous supplies used in production activities.
- E. Indirect labour.

8. The accounting records of Banff Corporation revealed the following selected costs: Sales commissions, \$25,000; plant supervision, \$88,600; and administrative expenses, \$179,400. Banff Corporation's period costs total:

- A. \$25,000.
- B. \$88,600.
- C. \$179,400.
- D. \$204,400.
- E. \$293,000.

9. Chant Corporation recently computed total product costs of \$647,000 and total period costs of \$549,000. On the basis of this information, Chant's income statement should reveal operating expenses of:

- A. \$98,000.
- B. \$488,000.
- C. \$549,000.
- D. \$647,000.
- E. \$1,196,000.

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

- A. Ultramar Corporation.
- B. Leon's Furniture Store.
- C. Harvey's.
- D. West Jet Airlines.
- E. Memorial University.

11. Which of the following inventories would a discount retailer such as Zellers report as an asset?

- A. Raw-materials.
- B. Work-in-process.
- C. Finished-goods.
- D. Merchandise inventory.
- E. Direct materials.

12. 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.

13. Scott Corporation engages in mass customization and direct sales, the latter by accepting customer orders over the Internet. As a result, Scott:

- A. would probably begin the manufacturing process upon receipt of a customer's order.
- B. would typically have fairly low inventory levels for the amount of sales revenue generated.
- C. would typically have fairly high inventory levels for the amount of sales revenue generated.
- D. would probably begin the manufacturing process upon receipt of a customer's order and typically have fairly low inventory levels for the amount of sales revenue generated.
- E. would probably begin the manufacturing process upon receipt of a customer's order and typically have fairly high inventory levels for the amount of sales revenue generated.

14. Companies that engage in mass customization:

- A. tend to have a relatively low production volume.
- B. tend to have a high production volume that involves highly standardized end-products.
- C. tend to have a high production volume, many standardized components, and customer-specified combinations of components.
- D. tend to have a high production volume, many unique components, and customer-specified combinations of components.
- E. could be typified by the refining operations of Shell Oil.

15. ElizabethtownMotors Ltd. manufactures all-wheel drive (AWD) automobiles. Which of the following would not be classified as direct materials by the company?

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

16. Should direct materials be classified as a part of any or all of the following: conversion cost, manufacturing cost, and prime cost?

- A. Conversion cost and manufacturing cost.
- B. Conversion cost and prime cost.
- C. Manufacturing cost and prime cost.
- D. Conversion cost, manufacturing cost, and prime cost.
- E. Conversion cost only.

17. Ranges Ltd. produces refrigerators and stoves in an assembly-line process. Labour costs incurred during a recent period were: corporate executives, \$100,000; assembly-line workers, \$80,000; security guards, \$18,000. The total of Ranges' direct labour cost was:

- A. \$18,000
- B. \$80,000.
- C. \$98,000.
- D. \$118,000.
- E. \$198,000

18. Depreciation of factory equipment is classified as:

- A. operating cost.
- B. opportunity cost.
- C. manufacturing overhead.
- D. prime cost.
- E. administrative cost.

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

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

20. The accounting records of Perth Company revealed the following costs, among others:

Factory insurance	\$ 32,000
Raw materials used	256,000
Customer entertainment	15,000
Indirect labour	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. \$420,000.
- E. \$442,000.

21. Which of the following statements is correct?

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

22. Conversion costs are:

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

23. Prime costs are comprised of:

- A. direct materials and manufacturing overhead.
- B. direct labour and manufacturing overhead.
- C. direct materials, direct labour, and manufacturing overhead.
- D. direct materials and direct labour.
- E. direct materials and indirect materials.

24. 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. Period costs affect both the balance sheet and the income statement.
- E. Product costs eventually affect both the balance sheet and the income statement.

25. In a manufacturing company, the cost of goods manufactured 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. Selling and Administrative costs.

26. Which of the following equations is used to calculate the 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.

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

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

28. The accounting records for Ferguson Manufacturing revealed that the company began the month of September with a finished-goods inventory of \$150,000. The finished-goods inventory at the end of September was \$70,000 and the cost of goods sold during the month was \$125,000. The cost of goods manufactured during September was:

- A. \$45,000.
- B. \$55,000.
- C. \$205,000.
- D. \$275,000.
- E. \$345,000.

29. Mike's Machinery Ltd. reported the cost of goods manufactured of \$300,000, and the firm's year-end balance sheet reported work in process and finished goods of \$50,000 and \$67,000, respectively. If supplemental information disclosed raw materials used in production of \$25,000, direct labour of \$80,000, and manufacturing overhead of \$90,000, the company's beginning work in process must have been:

- A. \$38,000.
- B. \$55,000.
- C. \$155,000.
- D. \$172,000.
- E. \$245,000.

30. Maplewood Company reported manufacturing overhead of \$300,000 with the company's year-end balance sheet revealing work in process and finished goods of \$80,000 and \$150,000, respectively. If supplemental information disclosed raw materials used in production of \$70,000, direct labour of \$130,000, and beginning work in process of \$30,000, the company's cost of goods manufactured have been:

- A. \$150,000.
- B. \$380,000.
- C. \$450,000
- D. \$550,000.
- E. \$610,000.

31. The accounting records of Dauphin Company revealed the following information:

Total manufacturing costs	\$530,000
Work in process inventory – Jan 1	56,000
Work in process inventory – Dec 31	78,000
Finished goods inventory – Jan 1	146,000
Finished goods inventory – Dec 31	123,000

Dauphin's cost of goods sold is:

- A. \$508,000.
- B. \$529,000.
- C. \$531,000.
- D. \$553,000.
- E. \$575,000.

32. The accounting records of Greenwood Company revealed the following information:

Work in process inventory – Jan 1	\$58,000
Work in process inventory – Dec 31	49,000
Finished goods inventory – Jan 1	125,000
Finished goods inventory – Dec 31	158,000
Cost of goods manufactured	754,000

Greenwood's cost of goods sold is:

- A. \$721,000.
- B. \$730,000.
- C. \$739,000.
- D. \$778,000.
- E. \$787,000.

33. An employee accidentally understated the year's advertising expense by \$150,000. Which of the following correctly depicts the effect of this error?

- A. Cost of goods manufactured will be overstated by \$150,000.
- B. Cost of goods sold will be overstated by \$150,000.
- C. Both cost of goods manufactured and cost of goods sold will be overstated by \$150,000.
- D. Cost of goods sold will be overstated by \$150,000, and cost of goods manufactured will be understated by \$150,000.
- E. Income will be overstated by \$150,000.

34. 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 labour hours worked.
- C. The number of machine hours worked.
- D. The number of employees working in the factory.
- E. The number of units produced.

35. The choices below depict five costs of Benton Corporation 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 labour hours.
- C. Sales commissions; gross sales revenue.
- D. Building maintenance cost; building square footage.
- E. Human resources department cost; number of employees.



36. Variable costs are those costs that:

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

37. 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.

38. Which costs will change with a decrease in activity?

- A. Total fixed costs and total variable costs.
- B. Unit fixed cost and total variable costs.
- C. Unit variable cost and unit fixed cost.
- D. Unit fixed cost and total fixed cost.
- E. Unit variable cost and fixed manufacturing overhead.

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

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

40. The variable costs per unit are \$4 when a company produces 10,000 units of product. What are the variable costs per unit when 8,000 units are produced?

- A. \$2.00.
- B. \$4.00.
- C. \$4.50.
- D. \$5.00.
- E. \$5.50.

41. The fixed costs per unit are \$20 when a company produces 10,000 units of product. What are the fixed costs per unit when 25,000 units are produced?
- A. \$4.
  - B. \$6.
  - C. \$8.
  - D. \$10.
  - E. \$20.
42. Total costs are \$200,000 when 20,000 units are produced; of this amount, variable costs are \$84,000. What are the total costs when 26,000 units are produced?
- A. \$150,800.
  - B. \$214,800.
  - C. \$225,200.
  - D. \$260,000.
  - E. \$369,200.
43. Which of the following would not be characterized as a cost object?
- A. An automobile manufactured by General Motors.
  - B. A Burger King restaurant located in Burlington, Ontario.
  - C. A West Jet Airlines flight from Toronto to Winnipeg.
  - D. A Fairmont hotel located in Montebello, Quebec.
  - E. The salary of a Honda plant manager.
44. 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.
45. 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.

46. Indirect costs:

- A. can be traced to a cost object.
- B. cannot be traced to a particular cost object.
- C. are always fixed.
- D. are always variable.
- E. may be indirect with respect to Disney World but direct with respect to one of its major components, Epcot Center.

47. 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.

48. The tuition fee 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.

49. 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. Average cost.

50. If the total cost of alternative A is \$600,000 and the total cost of alternative B is \$200,000, then \$400,000 is termed the:

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

51. Tiny Totts is a nursery school for kindergarten children. When there are twenty children enrolled, total revenues and total costs are \$6,000 and \$3,200, respectively. When there are twenty-one children enrolled, total revenues and total costs are \$6,300 and \$3,255, respectively. 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.

52. Tiny Totts is a nursery school for kindergarten children. When there are twenty children enrolled, total revenues and total costs are \$6,000 and \$3,200, respectively. When there are twenty-one children enrolled, total revenues and total costs are \$6,300 and \$3,255, respectively. The average cost when there are twenty children enrolled in the school is:

- A. \$55.
- B. \$160.
- C. \$162.75.
- D. \$300
- E. \$315.

53. Consider the three firms that follow: (1) Air Canada, (2) Chrysler Canada and (3) Zellers. 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.

54. 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 labour costs incurred by a manufacturer of office equipment.

Required:

- A. Evaluate the costs just cited and determine whether the associated dollar amounts would be found on the firm's balance sheet, income statement, or schedule of cost of goods manufactured. (Note: In some cases, more than one answer will apply.)
- 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.

55. Eastside Manufacturing produces small electric engines. Identify the following costs as direct materials (DM), direct labour (DL), manufacturing overhead (MOH), or a period cost (PC). Also indicate whether the cost is variable (V) or fixed (F) with respect to behaviour.

- 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

56. Consider the following items:

- A. Tomatoes used in the manufacture of Heinz ketchup
- B. Administrative salaries of executives employed by Air Canada
- C. Wages of assembly-line workers at a Ford plant
- D. Marketing expenditures of the Toronto Blue Jays Baseball Club
- E. Commissions paid to Coca-Cola's salespeople
- F. Straight-line depreciation on manufacturing equipment owned by Dell Computer
- G. Shipping charges incurred by Office Depot on out-going orders
- H. Speakers used in Sony home-theater systems
- I. Insurance costs related to a Mary Kay 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.

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

57. The following selected costs were extracted from the accounting records of Brampton Machining:

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

Required:

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

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

58. Draper Textiles Inc. had the following data for the period just ended.

Work in process – Jan 1	\$ 40,000
Work in process – Dec 31	52,000
Finished goods – Jan 1	60,000
Finished goods – Dec 31	81,000
Direct materials used	106,000
Direct labour	300,000
Factory depreciation	90,000
Sales	1,000,000
Advertising expense	50,000
Factory utilities	20,000
Indirect materials	20,000
Indirect labour	30,000

Required:

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

59. Hampton Company had the following inventory balances at the beginning and end of the year:

	January 1	December 31
Raw materials	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 spent \$340,000 on direct labour. 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 Hampton's net income.



60. The following selected information was extracted from the 2012 accounting records of Cooper Products.

Raw materials used	\$320,000
Direct labour	120,000
Indirect labour	30,000
Selling & administrative salaries	200,000
Building depreciation*	350,000
Other selling & administrative expenses	90,000
Other factory costs	700,000

\*Forty percent of the company's building was devoted to production activities; the remaining 60% was used for selling and administrative functions.

Cooper's beginning and ending work-in-process inventories amounted to \$290,000 and \$315,000, respectively. The company's beginning and ending finished-goods inventories were \$404,000 and \$450,000, respectively.

Required:

- A. Calculate Cooper's manufacturing overhead for the year.
- B. Calculate Cooper's cost of goods manufactured.
- C. Compute the company's cost of goods sold.

61. The selected amounts that follow were taken from Shawville Corporation's accounting records:

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

Required:

Compute the following:

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

62. Sedgwick 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 inventory – Jan 1	\$ 87,000
Work in process – Dec 31	55,000
Cost of goods manufactured	241,000
Raw materials used	40,000
Direct labour	74,000
Manufacturing overhead	122,000
Selling & administrative expenses	310,000

Sedgwick 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.

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

Number of muffler replacements	<u>400</u>	<u>500</u>	<u>600</u>
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 costs	G	H	I
Variable costs	<u>J</u>	<u>K</u>	<u>L</u>
Total cost per muffler replacement	<u>M</u>	<u>N</u>	<u>O</u>

Required:

Insert the missing amounts, labelled A through O, in the table.

64. Horne Builders began business on January 1 of the current year, producing a single product that is popular with contractors. Demand was very strong, allowing the company to sell its entire manufacturing output of 100,000 units. The following unit costs were incurred:

Manufacturing costs	
Direct materials	\$20
Direct labour	13
Variable overhead	16
Fixed overhead	11
Selling & administrative costs	
Variable	10
Fixed	7

Horne anticipates an increase in productive output to 150,000 units and sales of 145,000 units in the next accounting period. The company uses appropriate drivers to determine cost behaviour and estimates.

Required:

- A. Assuming that present cost behaviour patterns continue, compute the total expected costs in the upcoming accounting period.
- B. The company Controller is about to prepare a graph that shows the unit cost behaviour for variable selling and administrative cost. If the graph's horizontal axis is volume and the vertical axis is dollars, briefly describe what the graph should look like.
- C. Determine whether the following costs are variable or fixed in terms of behaviour:
  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.

65. Waterdown 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 labour	35
Manufacturing overhead	60
Annual fixed costs:	
Manufacturing overhead	\$400,000
Selling & administrative	140,000

Waterdown 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 behaviour patterns do not change, what is the likely effect on:
  1. The direct-labour cost of \$35 per unit? Why?
  2. The fixed manufacturing overhead cost of \$400,000? Why?

66. 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?

67. TomKat Corporation 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.

68. 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.

69. 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 manufacturer's disclosure of inventories on the balance sheet.

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



## 02 Key

1. (p. 29) 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.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #1*

*Learning Objective: 02-01 Explain the meaning of cost.*

2. (p. 29) 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.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #2*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

3. (p. 29) Which of the following is a product cost for external financial reporting purposes?

- A. Amortization of office equipment used by the CEO.
- B. Advertising costs.
- C. The salary paid to the Vice President of Finance.
- D.** Rent on a factory.
- E. Sales commissions.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #3*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

4. (p. 30) Which of the following is a period cost?

- A. Direct materials.
- B. Direct labour.
- C. Indirect materials.
- D. Insurance on a manufacturing plant.
- E. Sales commissions.**

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #4*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

5. (p. 29) The accounting records of Niagara Manufacturing Company revealed the following costs: direct materials used, \$120,000; direct labour, \$275,000; manufacturing overhead, \$350,000; and selling and administrative expenses, \$400,000. Niagara's product costs total:

- A. \$395,000.
- B. \$400,000.
- C. \$625,000.
- D. \$745,000.**
- E. \$1,145,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #5*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

6. (p. 30) Costs that are expensed when incurred are called:

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

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #6*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

7. (p. 30) Which of the following is a period cost?
- A. Direct material.
  - B. Manufacturing overhead.
  - C. Depreciation on cars driven by a firm's president and treasurer.
  - D.** Miscellaneous supplies used in production activities.
  - E. Indirect labour.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #7*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

8. (p. 30) The accounting records of Banff Corporation revealed the following selected costs: Sales commissions, \$25,000; plant supervision, \$88,600; and administrative expenses, \$179,400. Banff Corporation's period costs total:
- A. \$25,000.
  - B. \$88,600.
  - C. \$179,400.
  - D.** \$204,400.
  - E. \$293,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #8*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

9. (p. 31) Chant Corporation recently computed total product costs of \$647,000 and total period costs of \$549,000. On the basis of this information, Chant's income statement should reveal operating expenses of:
- A. \$98,000.
  - B. \$488,000.
  - C.** \$549,000.
  - D. \$647,000.
  - E. \$1,196,000.

*Blooms: Apply*

*Difficulty: Easy*

*Hilton - Chapter 02 #9*

*Learning Objective: 02-03 Describe the role of costs in financial statements.*

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

- A.** Ultramar Corporation.
- B. Leon's Furniture Store.
- C. Harvey's.
- D. West Jet Airlines.
- E. Memorial University.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #10*

*Learning Objective: 02-03 Describe the role of costs in financial statements.*

11. (p. 33) Which of the following inventories would a discount retailer such as Zellers report as an asset?

- A. Raw-materials.
- B. Work-in-process.
- C. Finished-goods.
- D.** Merchandise inventory.
- E. Direct materials.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #11*

*Learning Objective: 02-03 Describe the role of costs in financial statements.*

12. (p. 33) 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.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #12*

*Learning Objective: 02-03 Describe the role of costs in financial statements.*

13. (p. 34) Scott Corporation engages in mass customization and direct sales, the latter by accepting customer orders over the Internet. As a result, Scott:

- A. would probably begin the manufacturing process upon receipt of a customer's order.
- B. would typically have fairly low inventory levels for the amount of sales revenue generated.
- C. would typically have fairly high inventory levels for the amount of sales revenue generated.
- D.** would probably begin the manufacturing process upon receipt of a customer's order and typically have fairly low inventory levels for the amount of sales revenue generated.
- E. would probably begin the manufacturing process upon receipt of a customer's order and typically have fairly high inventory levels for the amount of sales revenue generated.

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #13*

*Learning Objective: 02-04 List five types of manufacturing operations and describe one of them: mass customization.*

14. (p. 34) Companies that engage in mass customization:

- A. tend to have a relatively low production volume.
- B. tend to have a high production volume that involves highly standardized end-products.
- C.** tend to have a high production volume, many standardized components, and customer-specified combinations of components.
- D. tend to have a high production volume, many unique components, and customer-specified combinations of components.
- E. could be typified by the refining operations of Shell Oil.

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #14*

*Learning Objective: 02-04 List five types of manufacturing operations and describe one of them: mass customization.*

15. (p. 36) ElizabethtownMotors Ltd. manufactures all-wheel drive (AWD) automobiles. Which of the following would not be classified as direct materials by the company?

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

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #15*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

16. (p. 37) Should direct materials be classified as a part of any or all of the following: conversion cost, manufacturing cost, and prime cost?

- A. Conversion cost and manufacturing cost.
- B. Conversion cost and prime cost.
- C. Manufacturing cost and prime cost.**
- D. Conversion cost, manufacturing cost, and prime cost.
- E. Conversion cost only.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #16*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

17. (p. 36) Ranges Ltd. produces refrigerators and stoves in an assembly-line process. Labour costs incurred during a recent period were: corporate executives, \$100,000; assembly-line workers, \$80,000; security guards, \$18,000. The total of Ranges' direct labour cost was:

- A. \$18,000
- B. \$80,000.**
- C. \$98,000.
- D. \$118,000.
- E. \$198,000

*Blooms: Apply*

*Difficulty: Easy*

*Hilton - Chapter 02 #17*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

18. (p. 36) Depreciation of factory equipment is classified as:

- A. operating cost.
- B. opportunity cost.
- C. manufacturing overhead.**
- D. prime cost.
- E. administrative cost.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #18*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

19. (p. 36) Which of the following costs is not a component of manufacturing overhead?

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

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #19*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

20. (p. 36) The accounting records of Perth Company revealed the following costs, among others:

Factory insurance	\$ 32,000
Raw materials used	256,000
Customer entertainment	15,000
Indirect labour	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. \$420,000.
- E. \$442,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #20*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

21. (p. 37) Which of the following statements is correct?

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

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #21*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

22. (p. 37) Conversion costs are:

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

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #22*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

23. (p. 37) Prime costs are comprised of:

- A. direct materials and manufacturing overhead.
- B. direct labour and manufacturing overhead.
- C. direct materials, direct labour, and manufacturing overhead.
- D. direct materials and direct labour.**
- E. direct materials and indirect materials.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #23*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

24. (p. 37) 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. Period costs affect both the balance sheet and the income statement.
- E. Product costs eventually affect both the balance sheet and the income statement.**

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #24*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*



25. (p. 37) In a manufacturing company, the cost of goods manufactured 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. Selling and Administrative costs.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #25*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

26. (p. 39) Which of the following equations is used to calculate the 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.

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #26*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

27. (p. 38) Work-in-process inventory is composed of:

- A. direct material and direct labour.
- B. direct labour and manufacturing overhead.
- C. direct material and manufacturing overhead.
- D. prime costs.
- E.** direct material, direct labour, and manufacturing overhead.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #27*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

28. (p. 39) The accounting records for Ferguson Manufacturing revealed that the company began the month of September with a finished-goods inventory of \$150,000. The finished-goods inventory at the end of September was \$70,000 and the cost of goods sold during the month was \$125,000. The cost of goods manufactured during September was:

- A.** \$45,000.
- B. \$55,000.
- C. \$205,000.
- D. \$275,000.
- E. \$345,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #28*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

29. (p. 39) Mike's Machinery Ltd. reported the cost of goods manufactured of \$300,000, and the firm's year-end balance sheet reported work in process and finished goods of \$50,000 and \$67,000, respectively. If supplemental information disclosed raw materials used in production of \$25,000, direct labour of \$80,000, and manufacturing overhead of \$90,000, the company's beginning work in process must have been:

- A. \$38,000.
- B. \$55,000.
- C.** \$155,000.
- D. \$172,000.
- E. \$245,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #29*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

30. (p. 39) Maplewood Company reported manufacturing overhead of \$300,000 with the company's year-end balance sheet revealing work in process and finished goods of \$80,000 and \$150,000, respectively. If supplemental information disclosed raw materials used in production of \$70,000, direct labour of \$130,000, and beginning work in process of \$30,000, the company's cost of goods manufactured have been:

- A. \$150,000.
- B. \$380,000.
- C.** \$450,000
- D. \$550,000.
- E. \$610,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #30*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

31. (p. 39) The accounting records of Dauphin Company revealed the following information:

Total manufacturing costs	\$530,000
Work in process inventory – Jan 1	56,000
Work in process inventory – Dec 31	78,000
Finished goods inventory – Jan 1	146,000
Finished goods inventory – Dec 31	123,000

Dauphin's cost of goods sold is:

- A. \$508,000.
- B. \$529,000.
- C. \$531,000.**
- D. \$553,000.
- E. \$575,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #31*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

32. (p. 39) The accounting records of Greenwood Company revealed the following information:

Work in process inventory – Jan 1	\$58,000
Work in process inventory – Dec 31	49,000
Finished goods inventory – Jan 1	125,000
Finished goods inventory – Dec 31	158,000
Cost of goods manufactured	754,000

Greenwood's cost of goods sold is:

- A. \$721,000.**
- B. \$730,000.
- C. \$739,000.
- D. \$778,000.
- E. \$787,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #32*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

33. (p. 39) An employee accidentally understated the year's advertising expense by \$150,000. Which of the following correctly depicts the effect of this error?
- A. Cost of goods manufactured will be overstated by \$150,000.
  - B. Cost of goods sold will be overstated by \$150,000.
  - C. Both cost of goods manufactured and cost of goods sold will be overstated by \$150,000.
  - D. Cost of goods sold will be overstated by \$150,000, and cost of goods manufactured will be understated by \$150,000.
  - E.** Income will be overstated by \$150,000.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #33*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

34. (p. 40) 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 labour hours worked.
  - C. The number of machine hours worked.
  - D. The number of employees working in the factory.
  - E.** The number of units produced.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #34*

*Learning Objective: 02-07 Understand the importance of identifying an organizations cost drivers.*

35. (p. 40) The choices below depict five costs of Benton Corporation 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 labour hours.
  - C. Sales commissions; gross sales revenue.
  - D. Building maintenance cost; building square footage.
  - E. Human resources department cost; number of employees.

*Blooms: Understand*

*Difficulty: Easy*

*Hilton - Chapter 02 #35*

*Learning Objective: 02-07 Understand the importance of identifying an organizations cost drivers.*

36. (p. 41) Variable costs are those costs that:
- A. vary inversely with changes in activity.
  - B.** vary directly with changes in activity.
  - C. remain constant in total as activity changes.
  - D. decrease on a per-unit basis as activity increases.
  - E. increase on a per-unit basis as activity increases.

*Blooms: Understand*

*Difficulty: Easy*

*Hilton - Chapter 02 #36*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

37. (p. 41) 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.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #37*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

38. (p. 41 and 42) Which costs will change with a decrease in activity?
- A. Total fixed costs and total variable costs.
  - B.** Unit fixed cost and total variable costs.
  - C. Unit variable cost and unit fixed cost.
  - D. Unit fixed cost and total fixed cost.
  - E. Unit variable cost and fixed manufacturing overhead.

*Blooms: Understand*

*Difficulty: Easy*

*Hilton - Chapter 02 #38*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

39. (p. 42) Which of the following is an example of a fixed cost?
- A. Paper used in the manufacture of textbooks.
  - B. Surgical supplies used in a hospital's operating room
  - C. The wages of part-time workers who are paid \$8 per hour.
  - D. Gasoline consumed by salespersons' cars.
  - E.** Property taxes paid by a firm to the City of Hamilton.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #39*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

40. (p. 41) The variable costs per unit are \$4 when a company produces 10,000 units of product. What are the variable costs per unit when 8,000 units are produced?

- A. \$2.00.
- B. \$4.00.**
- C. \$4.50.
- D. \$5.00.
- E. \$5.50.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #40*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

41. (p. 42) The fixed costs per unit are \$20 when a company produces 10,000 units of product. What are the fixed costs per unit when 25,000 units are produced?

- A. \$4.
- B. \$6.
- C. \$8.**
- D. \$10.
- E. \$20.

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #41*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

42. (p. 42) Total costs are \$200,000 when 20,000 units are produced; of this amount, variable costs are \$84,000. What are the total costs when 26,000 units are produced?

- A. \$150,800.
- B. \$214,800.
- C. \$225,200.**
- D. \$260,000.
- E. \$369,200.

*Blooms: Apply*

*Difficulty: Hard*

*Hilton - Chapter 02 #42*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

43. (p. 42) Which of the following would not be characterized as a cost object?

- A. An automobile manufactured by General Motors.
- B. A Burger King restaurant located in Burlington, Ontario.
- C. A West Jet Airlines flight from Toronto to Winnipeg.
- D. A Fairmont hotel located in Montebello, Quebec.
- E.** The salary of a Honda plant manager.

*Blooms: Understand*

*Difficulty: Easy*

*Hilton - Chapter 02 #43*

*Learning Objective: 02-09 Distinguish among direct; indirect; controllable; and uncontrollable costs.*

44. (p. 42) 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.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #44*

*Learning Objective: 02-09 Distinguish among direct; indirect; controllable; and uncontrollable costs.*

45. (p. 42) 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.

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #45*

*Learning Objective: 02-09 Distinguish among direct; indirect; controllable; and uncontrollable costs.*

46. (p. 42) Indirect costs:

A. can be traced to a cost object.

**B.** cannot be traced to a particular cost object.

C. are always fixed.

D. are always variable.

E. may be indirect with respect to Disney World but direct with respect to one of its major components, Epcot Center.

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #46*

*Learning Objective: 02-09 Distinguish among direct; indirect; controllable; and uncontrollable costs.*

47. (p. 46) 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.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #47*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

48. (p. 46) The tuition fee 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.

*Blooms: Remember*

*Difficulty: Medium*

*Hilton - Chapter 02 #48*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*



49. (p. 47) 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. Average cost.

*Blooms: Remember*

*Difficulty: Easy*

*Hilton - Chapter 02 #49*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

50. (p. 47) If the total cost of alternative A is \$600,000 and the total cost of alternative B is \$200,000, then \$400,000 is termed the:

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

*Blooms: Understand*

*Difficulty: Easy*

*Hilton - Chapter 02 #50*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

51. (p. 47) Tiny Totts is a nursery school for kindergarten children. When there are twenty children enrolled, total revenues and total costs are \$6,000 and \$3,200, respectively. When there are twenty-one children enrolled, total revenues and total costs are \$6,300 and \$3,255, respectively. 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.

*Blooms: Apply*

*Difficulty: Hard*

*Hilton - Chapter 02 #51*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

52. (p. 48) Tiny Totts is a nursery school for kindergarten children. When there are twenty children enrolled, total revenues and total costs are \$6,000 and \$3,200, respectively. When there are twenty-one children enrolled, total revenues and total costs are \$6,300 and \$3,255, respectively. The average cost when there are twenty children enrolled in the school is:

- A. \$55.
- B. \$160.**
- C. \$162.75.
- D. \$300
- E. \$315.

*Blooms: Apply*

*Difficulty: Easy*

*Hilton - Chapter 02 #52*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

53. (p. 31, and 41) Consider the three firms that follow: (1) Air Canada, (2) Chrysler Canada and (3) Zellers. 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.

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

*Blooms: Analyze*

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #53*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

*Learning Objective: 02-03 Describe the role of costs in financial statements.*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

54. (p. 31 and 38) 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 labour costs incurred by a manufacturer of office equipment.

Required:

- A. Evaluate the costs just cited and determine whether the associated dollar amounts would be found on the firm's balance sheet, income statement, or schedule of cost of goods manufactured. (Note: In some cases, more than one answer will apply.)
- 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.

1. Income statement
2. Schedule of cost of goods manufactured, Balance Sheet, Income Statement.
3. Schedule of cost of goods manufactured, Balance Sheet, Income Statement.
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, Balance Sheet, Income Statement.

B. The asset that differs among these businesses is inventory. Service businesses typically carry no (or very little) inventory and generally refer to the costs of producing services as operating expenses. 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.

*Blooms: Analyze*

*Blooms: Evaluate*

*Blooms: Understand*

*Difficulty: Hard*

*Hilton - Chapter 02 #54*

*Learning Objective: 02-03 Describe the role of costs in financial statements.*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

55. (p. 29, 36, 41, and 42) Eastside Manufacturing produces small electric engines. Identify the following costs as direct materials (DM), direct labour (DL), manufacturing overhead (MOH), or a period cost (PC). Also indicate whether the cost is variable (V) or fixed (F) with respect to behaviour.

- 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

- 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.

*Blooms: Analyze*

*Blooms: Understand*

*Difficulty: Medium*

*Hilton - Chapter 02 #55*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

56. (p. 29, 36, 41, and 42) Consider the following items:

- A. Tomatoes used in the manufacture of Heinz ketchup
- B. Administrative salaries of executives employed by Air Canada
- C. Wages of assembly-line workers at a Ford plant
- D. Marketing expenditures of the Toronto Blue Jays Baseball Club
- E. Commissions paid to Coca-Cola's salespeople
- F. Straight-line depreciation on manufacturing equipment owned by Dell Computer
- G. Shipping charges incurred by Office Depot on out-going orders
- H. Speakers used in Sony home-theater systems
- I. Insurance costs related to a Mary Kay 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.

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

Item	Product or Period Cost		Variable or Fixed Cost	
	Product	Period	Variable	Fixed
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

*Blooms: Analyze*

*Blooms: Understand*

*Difficulty: Hard*

*Hilton - Chapter 02 #56*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

57. (p. 29, 36, 38, and 41) The following selected costs were extracted from the accounting records of Brampton Machining:

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

Required:

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

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

- 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.

*Blooms: Analyze*

*Blooms: Understand*

*Difficulty: Hard*

*Hilton - Chapter 02 #57*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

58. (p. 38) Draper Textiles Inc. had the following data for the period just ended.

Work in process – Jan 1	\$ 40,000
Work in process – Dec 31	52,000
Finished goods – Jan 1	60,000
Finished goods – Dec 31	81,000
Direct materials used	106,000
Direct labour	300,000
Factory depreciation	90,000
Sales	1,000,000
Advertising expense	50,000
Factory utilities	20,000
Indirect materials	20,000
Indirect labour	30,000

Required:

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

A.

Direct materials used	\$106,000
Direct labour	300,000
Manufacturing overhead	
Factory depreciation	90,000
Factory utilities	20,000
Indirect materials	20,000
Indirect labour	<u>30,000</u>
Total manufacturing costs	566,000
Add: work in process – Jan 1	<u>40,000</u>
	606,000
Deduct: work in process – Dec 31	<u>52,000</u>
Cost of goods manufactured	<u>\$554,000</u>

B.

Finished goods – Jan 1	\$ 60,000
Add: cost of goods manufactured	<u>554,000</u>
Cost of goods available for sale	614,000
Deduct: Finished goods – Dec 31	<u>81,000</u>
Cost of goods sold	<u>\$533,000</u>

*Blooms: Analyze*

*Blooms: Apply*

*Difficulty: Hard*

*Hilton - Chapter 02 #58*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

59. (p. 38) Hampton Company had the following inventory balances at the beginning and end of the year:

	January 1	December 31
Raw materials	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 spent \$340,000 on direct labour. Other data: manufacturing overhead incurred, \$450,000; sales, \$1,560,000; selling and administrative expenses, \$90,000; income tax rate, 30%.

Required:

- Calculate cost of goods manufactured.
- Calculate cost of goods sold.
- Determine Hampton's net income.

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 materials – Dec 31	<u>35,000</u>	\$115,000
Direct labour		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
Deduct: 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 & administrative expenses	<u>90,000</u>
Income before taxes	580,000
Income tax expense (\$580,000 x 30%)	<u>174,000</u>
Net income	<u>\$ 406,000</u>

*Blooms: Analyze*

*Blooms: Apply*

*Difficulty: Hard*

*Hilton - Chapter 02 #59*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*



60. (p. 36 and 38) The following selected information was extracted from the 2012 accounting records of Cooper Products.

Raw materials used	\$320,000
Direct labour	120,000
Indirect labour	30,000
Selling & administrative salaries	200,000
Building depreciation*	350,000
Other selling & administrative expenses	90,000
Other factory costs	700,000

\*Forty percent of the company's building was devoted to production activities; the remaining 60% was used for selling and administrative functions.

Cooper's beginning and ending work-in-process inventories amounted to \$290,000 and \$315,000, respectively. The company's beginning and ending finished-goods inventories were \$404,000 and \$450,000, respectively.

Required:

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

A.

Indirect labour	\$30,000
Building depreciation (\$350,000 x 40%)	140,000
Other factory costs	<u>700,000</u>
Total	<u>\$870,000</u>

B.

Raw materials used	\$320,000
Direct labour	120,000
Manufacturing overhead	<u>870,000</u>
Total manufacturing costs	1,310,000
Add: work in process – Jan 1	<u>290,000</u>
	1,600,000
Deduct: work in process – Dec 31	<u>315,000</u>
Cost of goods manufactured	<u>\$1,285,000</u>

C.

Finished goods – Jan 1	\$ 404,000
Add: cost of goods manufactured	<u>1,285,000</u>
Cost of goods available for sale	1,689,000
Deduct: Finished goods – Dec 31	<u>450,000</u>
Cost of goods sold	<u>\$ 1,239,000</u>

Blooms: Analyze

Blooms: Apply

Difficulty: Medium

Hilton - Chapter 02 #60

Learning Objective: 02-05 Give examples of three types of manufacturing costs.

Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.

61. (p. 38) The selected amounts that follow were taken from Shawville Corporation's accounting records:

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

Required:

Compute the following:

- Manufacturing overhead.
- Work-in-process inventory on December 31.
- Finished-goods inventory on January 1.
- Cost of goods sold.
- Gross margin.
- Net income.

A.		
Total manufacturing costs		\$104,000
Less raw materials used	\$ 27,000	
Direct labour	<u>35,000</u>	<u>62,000</u>
Manufacturing overhead		\$ <u>42,000</u>
B.		
Total manufacturing costs		\$ 104,000
Add: work in process – Jan 1		<u>19,000</u>
		123,000
Less: cost of goods manufactured		<u>100,000</u>
Work in process – Dec 31		\$ <u><u>23,000</u></u>
C.		
Cost of goods available for sale		\$ 175,000
Less cost of goods manufactured		<u>100,000</u>
Finished goods inventory – Jan 1		\$ <u><u>75,000</u></u>
D.		
Cost of goods available for sale		\$ 175,000
Less finished goods inventory – Dec 31		<u>60,000</u>
Cost of goods sold		\$ <u><u>115,000</u></u>
E.		
Sales revenue		\$ 300,000
Less: cost of goods sold		<u>115,000</u>
Gross margin		\$ <u><u>185,000</u></u>
F.		
Gross margin		\$ 185,000
Less: selling & administrative expenses	\$125,000	
income tax expense	<u>18,000</u>	<u>143,000</u>
Net income		\$ <u><u>42,000</u></u>

*Blooms: Analyze*

*Blooms: Apply*

*Difficulty: Medium*

*Hilton - Chapter 02 #61*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

62. (p. 38) Sedgwick 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 inventory – Jan 1	\$ 87,000
Work in process – Dec 31	55,000
Cost of goods manufactured	241,000
Raw materials used	40,000
Direct labour	74,000
Manufacturing overhead	122,000
Selling & administrative expenses	310,000

Sedgwick 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.

A. Let X = sales revenue

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

$$X = \$625,000$$

$$\text{Sales revenue } (\$625,000) \div \text{units sold } (12,500) = \$50 \text{ selling price}$$

B.1

Cost of goods sold	
Finished goods – Jan 1	\$ 87,000
Add: cost of goods manufactured	<u>241,000</u>
Cost of goods 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.

B.2

Cost of goods manufactured:	
Raw materials used	\$ 40,000
Direct labour	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	\$ 1625,000
Less: cost of goods sold	<u>250,000</u>
Gross margin	375,000
Less: selling & 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.

*Blooms: Analyze*

*Blooms: Apply*

*Difficulty: Hard*

*Hilton - Chapter 02 #62*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

63. (p. 41) Austin Muffler, Inc., operates an automobile service facility. The table below shows the cost incurred during a month when 500 mufflers were replaced.

Number of muffler replacements	<u>400</u>	<u>500</u>	<u>600</u>
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 costs	G	H	I
Variable costs	<u>J</u>	<u>K</u>	<u>L</u>
Total cost per muffler replacement	<u>M</u>	<u>N</u>	<u>O</u>

Required:

Insert the missing amounts, labelled A through O, in the table.

Number of muffler replacements	<u>400</u>	<u>500</u>	<u>600</u>
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 costs	\$ 22.50	\$ 18.00	\$ 15.00
Variable costs	<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 ( $\$9,000 \div 600$ )

*Blooms: Analyze*

*Blooms: Apply*

*Blooms: Understand*

*Difficulty: Hard*

*Hilton - Chapter 02 #63*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

64. (p. 40 and 41) Horne Builders began business on January 1 of the current year, producing a single product that is popular with contractors. Demand was very strong, allowing the company to sell its entire manufacturing output of 100,000 units. The following unit costs were incurred:

Manufacturing costs	
Direct materials	\$20
Direct labour	13
Variable overhead	16
Fixed overhead	11
Selling & administrative costs	
Variable	10
Fixed	7

Horne anticipates an increase in productive output to 150,000 units and sales of 145,000 units in the next accounting period. The company uses appropriate drivers to determine cost behaviour and estimates.

Required:

- Assuming that present cost behaviour patterns continue, compute the total expected costs in the upcoming accounting period.
- The company Controller is about to prepare a graph that shows the unit cost behaviour for variable selling and administrative cost. If the graph's horizontal axis is volume and the vertical axis is dollars, briefly describe what the graph should look like.
- Determine whether the following costs are variable or fixed in terms of behaviour:
  - Yearly lease payments for a state-of-the-art cutting machine.
  - A fee paid to a consultant who provided advice about quality issues. The fee was based on the number of consulting hours provided.
  - Cost of an awards dinner for "star" salespeople.

Direct materials (150,000 x \$20)	\$ 3,000,000
Direct labour (150,000 x \$13)	1,950,000
Variable overhead (150,000 x \$16)	2,400,000
Fixed overhead	1,100,000
Variable selling & administrative expenses (145,000 x \$10)	1,450,000
Fixed selling & administrative expenses (100,000 x \$7)	<u>700,000</u>
Total costs	\$ <u>10,600,000</u>

B. The variable selling and administrative costs are constant at \$10 per unit. Thus, the graph is a straight, horizontal line.

- Fixed
- Variable
- Variable

*Blooms: Analyze*

*Blooms: Apply*

*Blooms: Understand*

*Difficulty: Hard*

*Hilton - Chapter 02 #64*

*Learning Objective: 02-07 Understand the importance of identifying an organizations cost drivers.*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

65. (p. 36, 38, 41, and 48) Waterdown 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 labour	35
Manufacturing overhead	60
Annual fixed costs:	
Manufacturing overhead	\$400,000
Selling & administrative	140,000

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

Required:

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

A.

Fixed manufacturing cost per unit:  
 $\$400,000 \div 20,000 \text{ scrapers produced} = \$20$

Average unit manufacturing cost:	
Direct materials	\$25
Direct labour	35
Variable manufacturing overhead	60
Fixed manufacturing overhead	<u>20</u>
Average unit cost	<u>\$ 140</u>

B.

Production (in units)	20,000
Sales (in units)	<u>17,000</u>
Ending finished goods inventory – Dec 31	<u>3,000</u>
3,000 units x \$140	\$ 420,000

C.

Finished goods – Jan 1	-----
Add: cost of goods manufactured (20,000 units x \$14)	<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>

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



*Blooms: Analyze*

*Blooms: Apply*

*Blooms: Understand*

*Difficulty: Hard*

*Hilton - Chapter 02 #65*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

*Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.*

*Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

66. (p. 48) 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?

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

*Blooms: Evaluate*

*Difficulty: Hard*

*Hilton - Chapter 02 #66*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

67. (p. 29) TomKat Corporation 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.

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.

*Blooms: Evaluate*

*Difficulty: Medium*

*Hilton - Chapter 02 #67*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

68. (p. 29 and 36) 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.

Product costs are costs that relate to the manufacturing process and consist of direct materials, direct labour, 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.

*Blooms: Evaluate*

*Difficulty: Medium*

*Hilton - Chapter 02 #68*

*Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

69. (p. 36 and 42) 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 manufacturer's disclosure of inventories on the balance sheet.

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 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.

*Blooms: Evaluate*

*Difficulty: Medium*

*Hilton - Chapter 02 #69*

*Learning Objective: 02-05 Give examples of three types of manufacturing costs.*

*Learning Objective: 02-09 Distinguish among direct; indirect; controllable; and uncontrollable costs.*

70. (p. 48) Describe the economic characteristics of sunk costs and opportunity costs, and explain the impact that these costs may have on decisions.

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.

*Blooms: Evaluate*

*Difficulty: Medium*

*Hilton - Chapter 02 #70*

*Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.*

## 02 Summary

<u>Category</u>	<u># of Questi ons</u>
Blooms: Analyze	13
Blooms: Apply	24
Blooms: Evaluate	6
Blooms: Remember	25
Blooms: Understand	19
Difficulty: Easy	24
Difficulty: Hard	12
Difficulty: Medium	34
Hilton - Chapter 02	70
Learning Objective: 02-01 Explain the meaning of cost.	1
Learning Objective: 02-02 Distinguish among product costs; period costs; and expenses.	13
Learning Objective: 02-03 Describe the role of costs in financial statements.	6
Learning Objective: 02-04 List five types of manufacturing operations and describe one of them: mass customization.	2
Learning Objective: 02-05 Give examples of three types of manufacturing costs.	16
Learning Objective: 02-06 Prepare a schedule of cost of goods manufactured; a schedule of cost of goods sold; and an income statement for a manufacturer.	18
Learning Objective: 02-07 Understand the importance of identifying an organizations cost drivers.	3
Learning Objective: 02-08 Describe the behaviour of variable and fixed costs; in total and on a per-unit basis.	14
Learning Objective: 02-09 Distinguish among direct; indirect; controllable; and uncontrollable costs.	5
Learning Objective: 02-10 Define and give examples of an opportunity cost; an out-of-pocket cost; a sunk cost; a differential cost; a marginal cost; and an average cost per unit.	9