Chapter 02
Cost Concepts and Behavior

True / False Questions

1. The cost of an item is the sacrifice of resources made to acquire it.

   True False

2. An expense is an expired cost matched with revenues in a specific accounting period.

   True False

3. An asset is a cost matched with revenues in a future accounting period.

   True False

4. Accounting systems typically record opportunity costs as assets and treat them as intangible items on the financial statements.

   True False

5. Total cost of goods purchased *minus* beginning merchandise inventory *plus* ending merchandise inventory *equals* cost of goods sold.

   True False

6. Cost of goods sold includes the actual costs of the goods sold and the cost of selling them to the customer.

   True False

7. Period costs are those costs assigned to units of production in the period in which they are incurred.

   True False

8. Only direct costs can be classified as product costs; indirect costs are classified as period costs.

   True False

9. The three categories of product costs are direct materials, direct labor, and manufacturing overhead.

   True False

10. The first step in determining whether a cost is direct or indirect is to specify the cost allocation rule.

    True False

11. Total work-in-process during the period is the sum of the beginning work-in-process inventory and the total manufacturing costs incurred during the period.

    True False

12. Cost of goods sold *plus* the ending finished goods inventory *minus* the beginning finished goods inventory *equals* the cost of goods manufactured.

    True False

13. If the cost of goods manufactured during the period exceeds the cost of goods sold, the ending balance of Finished Goods Inventory account increased.

    True False

14. Total variable costs change inversely with changes in the volume of activity.

    True False

15. Fixed costs per unit change inversely with changes in the volume of activity.

    True False

16. The range within which fixed costs remain constant as volume of activity varies is known as the relevant range.

    True False

17. The term *full cost* refers to the cost of manufacturing and selling a unit of product and includes both fixed and variable costs.

    True False

18. Variable marketing and administrative costs are included in determining full absorption costs.

    True False

19. Revenue *minus* cost of goods sold *equals* contribution margin.

    True False

20. The primary goal of the cost accounting system is to provide managers with information to prepare their annual financial statements.

    True False

Multiple Choice Questions

21. Which of the following statements is (are) true?

(1). An asset is a cost that will be matched with revenues in a future accounting period.
(2). Opportunity costs are recorded as intangible assets in the current accounting period.

A. Only (1) is true.
B. Only (2) is true.
C. Both (1) and (2) are true.
D. Neither (1) nor (2) are true.

22. Which of the following statements is (are) false?
(1). In general, the term *expense* is used for managerial purposes, while the term *cost* refers to external financial reports.
(2). An opportunity cost is the benefit forgone by selecting one alternative over another.

A. Only (1) is false.
B. Only (2) is false.
C. Both (1) and (2) are false.
D. Neither (1) nor (2) are false.

23. Which of the following best distinguishes an opportunity cost from an outlay cost?

A. Opportunity costs are recorded, whereas outlay costs are not.
B. Outlay costs are speculative in nature, whereas opportunity costs are easily traceable to products.
C. Opportunity costs have very little utility in practical applications, whereas outlay costs are always relevant.
D. Opportunity costs are sacrifices from foregone alternative uses of resources, whereas outlay costs are cash outflows.

24. Which of the following accounts would be a period cost rather than a product cost?

A. Depreciation on manufacturing machinery.
B. Maintenance on factory machines.
C. Production manager's salary.
D. Direct Labor.
E. Freight out.

25. A company which manufactures custom-made machinery routinely incurs sizable telephone costs in the process of taking sales orders from customers. Which of the following is a proper classification of this cost?

A. Product cost
B. Period cost
C. Conversion cost
D. Prime cost

26. For a manufacturing company, which of the following is an example of a period cost rather than a product cost?

A. Wages of salespersons.
B. Salaries of machine operators.
C. Insurance on factory equipment.
D. Depreciation of factory equipment.

27. XYZ Company manufactures a single product. The product's prime costs consist of

A. direct material and direct labor.
B. direct material and factory overhead.
C. direct labor and factory overhead.
D. direct material, direct labor and factory overhead.
E. direct material, direct labor and variable factory overhead.

28. Which of the following costs is both a prime cost and a conversion cost?

A. direct materials
B. direct labor
C. manufacturing overhead
D. administrative costs
E. marketing costs

29. Marketing costs include all of the following except:

A. Advertising.
B. Shipping costs.
C. Sales commissions.
D. Legal and accounting fees.
E. Office space for sales department.

30. Property taxes on the manufacturing facility are an element of

	Conversion Cost	Period Cost
a.	No	No
b.	No	Yes
c.	Yes	No
d.	Yes	Yes

A. Option A.
B. Option B.
C. Option C.
D. Option D.

31. Classifying a cost as either direct or indirect depends upon

A. whether an expenditure is unavoidable because it cannot be changed regardless of any action taken.
B. whether the cost is expensed in the period in which it is incurred.
C. the behavior of the cost in response to volume changes.
D. the cost object to which the cost is being related.

32. The beginning Work-in-Process inventory plus the total of the manufacturing costs equals

A. total finished goods during the period.
B. cost of goods sold for the period.
C. total work-in-process during the period.
D. cost of goods manufactured for the period.

33. The cost of the direct labor will be treated as an expense on the income statement when the resulting:

A. payroll costs are paid.
B. payroll costs are incurred.
C. products are completed.
D. products are sold.

34. Inventoriable costs:

A. include only the prime costs of manufacturing a product.
B. include only the conversion costs of providing a service.
C. exclude fixed manufacturing costs.
D. are regarded as assets until the units are sold.
E. are regarded as expenses when the costs are incurred.

35. A product cost is deducted from revenue when

A. the finished goods are sold.
B. the expenditure is incurred.
C. the production process takes place.
D. the production process is completed.
E. the finished goods are transferred to the Finished Goods Inventory.

36. The amount of direct materials issued to production is found by

A. subtracting ending work in process from total work in process during the period.
B. adding beginning direct materials inventory and the delivered cost of direct materials.
C. subtracting ending direct materials from direct materials available for production.
D. adding delivered cost of materials, labor, and manufacturing overhead.
E. subtracting purchases discounts and purchases returns and allowances from purchases of direct material plus freight-in.

37. The beginning Finished Goods Inventory plus the cost of goods manufactured equals

A. ending finished goods inventory.
B. cost of goods sold for the period.
C. total work-in-process during the period.
D. total cost of goods manufactured for the period.
E. cost of goods available for sale for the period.

38. Direct labor would be part of the cost of the ending inventory for which of these accounts?

A. Work-in-Process.
B. Finished Goods.
C. Direct Materials and Work-in-Process.
D. Work-in-Process and Finished Goods.
E. Direct Materials, Work-in-Process, and Finished Goods.

39. The Work-in-Process Inventory of the Rapid Fabricating Corp. was $3,000 higher on December 31, 2012 than it was on January 1, 2012. This implies that in 2012

A. cost of goods manufactured was higher than cost of goods sold.
B. cost of goods manufactured was less than total manufacturing costs.
C. manufacturing costs were higher than cost of goods sold.
D. manufacturing costs were less than cost of goods manufactured.
E. cost of goods manufactured was less than cost of goods sold.

40. Which of the following is *not* a product cost under full-absorption costing?

A. Direct materials used in the current period
B. Rent for the warehouse used to store direct materials
C. Salaries paid to the top management in the company
D. Vacation pay accrued for the production workers

41. The term "gross margin" for a manufacturing firm refers to the excess of sales over:

A. cost of goods sold, excluding fixed indirect manufacturing costs.
B. all variable costs, including variable marketing and administrative costs.
C. cost of goods sold, including fixed indirect manufacturing costs.
D. variable costs, excluding variable marketing and administrative costs.
E. total manufacturing costs, including fixed indirect manufacturing costs.

42. How would property taxes paid on a factory building be classified in a manufacturing company?

A. Fixed, period cost.
B. Fixed, product cost.
C. Variable, period cost.
D. Variable, product cost.

43. How would miscellaneous supplies used in assembling a product be classified for a manufacturing company?

A. Fixed, period cost.
B. Fixed, product cost.
C. Variable, period cost.
D. Variable, product cost.

44. 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.

45. The student health center employs one doctor, three nurses, and several other employees. How would you classify (1) the nurses' salary and (2) film and other materials used in radiology to give X-rays to students? Assume the activity is the number of students visiting the health center.

	Nurse's Salaries	Film and Other Materials Used in Radiology
a.	Fixed cost	Fixed cost
b.	Fixed cost	Variable cost
c.	Variable cost	Fixed cost
d.	Variable cost	Variable cost
e.	Mixed cost	Mixed cost

A. Option A
B. Option B
C. Option C
D. Option D

46. Pete's Pizza Place has four pizza makers and ten other employees who take orders from customers and perform other tasks. The four pizza makers and the other employees are paid an hourly wage. How would one classify (1) the wages paid to the pizza makers and other employees and (2) materials (e.g., cheeses, sauce, etc.) used to make the pizza? Assume the activity is the number of pizzas made.

	Employees' Wages	Materials to make the pizza
a.	Fixed cost	Fixed cost
b	Fixed cost	Variable cost
c.	Variable cost	Fixed cost
d.	Mixed cost	Variable cost
e.	Mixed cost	Mixed cost

A. Option A

B. Option B

C. Option C

D. Option D

47. Which of the following statements is (are) true?

(1). The term *full cost* refers to the cost of manufacturing and selling a unit of product and includes both fixed and variable costs.
(2). The fixed cost per unit is considered constant despite changes in volume of activity within the relevant range.

A. Only (1) is true.

B. Only (2) is true.

C. Both (1) and (2) are true.

D. Neither (1) nor (2) are true.

48. Given the following information for a retail company, what is the total cost of goods purchased for the period?

Purchases discounts	$ 3,500
Transportation-in	6,700
Ending inventory	35,000
Gross merchandise cost	304,000
Purchases returns	8,400
Beginning inventory	27,000
Sales discounts	10,300

A. $298,800

B. $290,800

C. $282,100

D. $304,000

49. A company had beginning inventories as follows: Direct Materials, $300; Work-in-Process, $500; Finished Goods, $700. It had ending inventories as follows: Direct Materials, $400; Work-in-Process, $600; Finished Goods, $800. Material Purchases (net including freight) were $1,400, Direct Labor $1,500, and Manufacturing Overhead $1,600. What is the Cost of Goods Sold for the period?

A. $4,100.

B. $4,200.

C. $4,300.

D. $4,400.

50. Compute the Cost of Goods Sold for 2008 using the following information:

Direct Materials, January 01, 2008	$40,000
Work-in-Process, December 31, 2008	69,000
Direct Labor	48,500
Finished Goods, December 31,2008	105,000
Finished Goods, January 01, 2008	128,000
Manufacturing Overhead	72,500
Direct Materials, December 31,2008	43,000
Work-in Process, January 01, 2008	87,000
Purchases of direct material	75,000

A. $244,000

B. $234,000

C. $211,000

D. $198,000

E. $188,000

51. Seiler Company has the following information:

	Work-in-Process	Finished Goods	Materials
Beginning inventory	$300	$400	$ 500
Ending inventory	700	900	1,500
Purchases of materials -------- $ 7,700			
Cost of Goods Sold ----------$15,600			
Manufacturing overhead------- $4,300			

What was the direct labor for the period?

A. $5,500.

B. $5,800.

C. $6,300.

D. $6,800.

E. $7,500.

52. Seiler Company has the following information:

	Work-in-Process	Finished Goods	Materials
Beginning inventory	$300	$400	$ 500
Ending inventory	700	900	1,500
Purchases of materials (net)	$7,700		
Cost of Goods Sold	$15,600		
Manufacturing overhead	$4,300		

What was the cost of goods available for sale for the period?

A. $16,800

B. $16,500

C. $16,100

D. $15,100

53. The estimated unit costs for a company to produce and sell a product at a level of 12,000 units per month are as follows:

Cost Item	*Estimated Unit Cost*
Direct material	$32
Direct labor	20
Variable manufacturing overhead	15
Fixed manufacturing overhead	6
Variable selling expenses	3
Fixed selling expenses	4

What are the estimated conversion costs per unit?

A. $35

B. $41

C. $44

D. $48

E. $67

54. The estimated unit costs for a company to produce and sell a product at a level of 12,000 units per month are as follows:

Cost Item	*Estimated Unit Cost*
Direct material	$32
Direct labor	20
Variable manufacturing overhead	15
Fixed manufacturing overhead	6
Variable selling expenses	3
Fixed selling expenses	4

What are the estimated prime costs per unit?

A. $73

B. $32

C. $67

D. $52

E. $76

55. The estimated unit costs for a company to produce and sell a product at a level of 12,000 units per month are as follows:

Cost Item	*Estimated Unit Cost*
Direct material	$32
Direct labor	20
Variable manufacturing overhead	15
Fixed manufacturing overhead	6
Variable selling expenses	3
Fixed selling expenses	4

What are the estimated variable costs per unit?

A. $70

B. $38

C. $67

D. $52

E. $18

56. Calculate the conversion costs from the following information:

Fixed manufacturing overhead	$2,000
Variable manufacturing overhead	1,000
Direct materials	2,500
Direct labor	1,500

A. $3,000

B. $4,000

C. $4,500

D. $5,000

E. $7,000

57. During the year, a manufacturing company had the following operating results:

Beginning work-in-process inventory	$ 45,000
Beginning finished goods inventory	$190,000
Direct materials used in production	$308,000
Direct labor	$475,000
Manufacturing overhead incurred	$250,000
Ending work-in-process inventory	$ 67,000
Ending finished goods inventory	$ 89,000

What is the cost of goods manufactured for the year?

A. $1,011,000

B. $1,134,000

C. $1,033,000

D. $1,112,000

58. During April, the CJG Manufacturing Company had the following operating results:

Sales revenue	$1,500,000
Gross margin	$ 600,000
Ending work-in-process inventory	$ 50,000
Beginning work-in-process inventory	$ 80,000
Ending finished goods inventory	$ 100,000
Beginning finished goods inventory	$ 125,000
Marketing costs	$ 250,000
Administrative costs	$ 150,000

What is the cost of goods manufactured for April?

A. $900,000

B. $875,000

C. $925,000

D. $905,000

59. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the variable manufacturing cost per unit?

A. $380

B. $430

C. $480

D. $730

60. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the total manufacturing cost per unit?

A. $380

B. $430

C. $480

D. $730

61. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the full cost per unit of making and selling the product?

A. $430

B. $480

C. $530

D. $730

62. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the contribution margin per unit?

A. $70

B. $320

C. $370

D. $430

63. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the conversion cost per unit?

A. $100

B. $180

C. $280

D. $380

64. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the prime cost per unit?

A. $100

B. $280

C. $300

D. $480

65. The following information was collected from the accounting records of the CJG 65 for 3,000 units:

	Per Unit	*Per Period*
Sales price	$350	
Direct Materials	80	
Direct Labor	40	
Overhead	60	$90,000
Marketing	20	
Administrative		60,000

What is CJG's total cost per unit?

A. $180.

B. $200.

C. $210.

D. $250.

66. The difference between variable costs and fixed costs is (CMA adapted)

A. Unit variable costs fluctuate and unit fixed costs remain constant.

B. Unit variable costs are fixed over the relevant range and unit fixed costs are variable.

C. Total variable costs are constant over the relevant range, while fixed costs change in the long-term.

D. Total variable costs are variable over the relevant range but fixed in the long-term, while fixed costs never change.

E. Unit variable costs change in varying increments, while unit fixed costs change in equal increments.

67. Which one of the following costs is classified as a period cost? (CIA adapted)

A. The wages of the workers on the shipping docks who load completed products onto outgoing trucks.
B. The wages of a worker paid for idle time resulting from a machine breakdown in the molding department.
C. The payments for employee (fringe) benefits paid on behalf of the workers in the manufacturing plant.
D. The wages paid to workers for reworking defective products that failed the quality inspection upon completion.

68. The following cost data for the month of May were taken from the records of the Paducah Manufacturing Company: (CIA adapted)

Depreciation on factory equipment	$1,000
Depreciation on sales office	500
Advertising	7,000
Wages of production workers	28,000
Raw materials used	47,000
Sales salaries and commissions	10,000
Factory rent	2,000
Factory insurance	500
Materials handling	1,500
Administrative salaries	2,000

Based upon this information, the manufacturing cost incurred during the month was:

A. $78,500.
B. $80,000.
C. $80,500.
D. $83,000.

69. Sarasota Company, (a merchandising Co.) has the following data pertaining to the year ended December 31, 2006: (CPA adapted)

Purchases	$450,000
Beginning inventory	170,000
Ending inventory	210,000
Freight-in	50,000
Freight-out	75,000

What is the cost of goods sold for the year?

A. $385,000

B. $460,000

C. $485,000

D. $536,000

70. The Southeastern Company's manufacturing costs for the third quarter of 2008 were as follows: (CPA adapted)

Direct materials and direct labor	$700,000
Other variable manufacturing costs	100,000
Depreciation of factory building and manufacturing equipment	80,000
Other fixed manufacturing costs	18,000

What amount should be considered product costs for external reporting purposes?

A. $700,000

B. $800,000

C. $880,000

D. $898,000

71. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
Machining labor ($12/hour)	18	15
Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

For Makwa's Product L, the costs for direct material, machining labor, and assembly labor represent

A. Conversion costs.

B. Period costs.

C. Prime costs.

D. Common costs.

E. Fixed costs.

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Direct materials	$ 44	$ 36
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Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

The difference between the $100 estimated selling price for Product W and its total cost of $88 represents

A. Contribution margin per unit.

B. Gross margin per unit.

C. Variable cost per unit.

D. Operating profit per unit.

E. Net income per unit.

73. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

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Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

The total overhead cost of $27 for Makwa's Product W is a

A. Sunk cost.

B. Opportunity cost.

C. Variable cost.

D. Mixed cost.

E. Fixed cost.

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Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

Research and development costs for Makwa's two new products are

A. Prime costs.

B. Conversion costs.

C. Opportunity costs.

D. Sunk costs.

E. Avoidable costs.

75. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
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Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

The advertising costs for the product selected by Makwa will be

A. Prime costs.
B. Conversion costs.
C. Period costs.
D. Opportunity costs.
E. Product costs.

76. An opportunity cost is

A. a cost that is charged against revenue in an accounting period.
B. the foregone benefit from the best alternative course of action.
C. the excess of operating revenues over operating costs.
D. the cost assigned to the products sold during the period.
E. the cost assigned to the products produced during the period.

77. The process of assigning indirect costs to products, services, people, business units, etc., is

A. cost object.
B. cost pool.
C. cost allocation.
D. opportunity cost.

78. A _____ is any end to which a cost is assigned.

A. cost object
B. cost pool
C. cost allocation
D. opportunity cost

79. A cost allocation rule is the method or process used to assign the costs in the _____ to the _____.

A. cost allocation; cost pool
B. cost pool; opportunity cost
C. cost object; cost pool
D. cost pool; cost object

80. Under full absorption costing, which of the following are included in product costs?

A. Only direct materials and direct labor.
B. Only variable manufacturing costs.
C. Only conversion costs.
D. All fixed and variable manufacturing costs.

81. Waupun Company has the following unit costs:

Variable manufacturing overhead	$13
Direct materials	12
Direct labor	17
Fixed manufacturing overhead	10
Fixed marketing and administrative	8

What cost per unit would be used for product costing under full absorption costing?

A. $29

B. $42

C. $52

D. $60

82. Waupun Company has the following unit costs:

Variable manufacturing overhead	$13
Direct materials	12
Direct labor	17
Fixed manufacturing overhead	10
Fixed marketing and administrative	8

What cost per unit would be used for product costing under variable costing?

A. $29

B. $42

C. $52

D. $60

83. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the gross margin?

A. $170,000

B. $240,000

C. $290,000

D. $360,000

84. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

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C. $290,000

D. $360,000

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Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the operating profit under full absorption costing?

A. $170,000

B. $240,000

C. $290,000

D. $360,000

86. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the operating profit using a contribution margin income statement?

A. $170,000

B. $240,000

C. $290,000

D. $360,000

87. Which of the following is **not** a name for indirect resources?

A. Overhead costs

B. Burden

C. Direct costs

D. Common costs

88. Which of the following should be considered part of a manufacturing company's direct labor cost?

A. Factory supervisor's salary

B. Forklift operator's hourly wages

C. Employer-paid health insurance on factory assemblers' wages

D. Cost of idle time

89.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The variable cost of goods sold is:

A. $110,000

B. $120,000

C. $144,000

D. $40,000

90.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The absorption cost of goods sold is:

A. $246,667

B. $120,000

C. $180,000

D. $40,000

91.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The variable operating income is:

A. $120,000

B. $140,000

C. $104,000

D. $128,000

92.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The absorption operating income is:

A. $120,000

B. $140,000

C. $128,000

D. $112,000

E. $45 per unit x 4,000 units sold

93.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The variable ending inventory is:

A. $36,000

B. $8,000

C. $40,000

D. $24,000

94.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The absorption ending inventory is:

A. $40,000

B. $24,000

C. $36,000

D. $8,000

95.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The difference between the variable ending inventory cost and the absorption ending inventory cost is:

A. 800 units times $15 per unit indirect manufacturing cost.

B. 800 units times $10 per unit material cost.

C. 800 units times $20 per unit variable conversion cost plus $15 per unit indirect manufacturing cost.

D. 800 units times $20 per unit variable conversion cost plus $15 per unit indirect manufacturing cost plus $16.67 per unit indirect operating costs.

96. Absorption costing measures contribution to profit as:

A. Sales less unit-level costs spent of goods sold.
B. Sales less variable costs of goods sold.
C. Sales less absorption cost of goods sold.
D. Sales less all costs including operating expenses.

97. The corporate controller's salary would be considered a(n):

A. manufacturing cost.
B. product cost.
C. administrative cost.
D. selling expense.

98. The costs of direct materials are classified as:

	Conversion cost	Manufacturing cost	Prime cost
A)	Yes	Yes	Yes
B)	No	No	No
C)	Yes	Yes	No
D)	No	Yes	Yes

A. Choice A
B. Choice B
C. Choice C
D. Choice D

99. Manufacturing overhead:

A. can be either a variable cost or a fixed cost.
B. includes the costs of shipping finished goods to customers.
C. includes all factory labor costs.
D. includes all fixed costs.

100. The three basic elements of manufacturing cost are direct materials, direct labor, and:

A. cost of goods manufactured.
B. cost of goods sold.
C. work in process.
D. manufacturing overhead.

101. Prime cost consists of direct materials combined with:

A. direct labor.
B. manufacturing overhead.
C. indirect materials.
D. cost of goods manufactured.

102. Which terms below correctly describe the cost of the black paint used to paint the dots on a pair of dice?

	Variable Cost	Administrative Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Choice A
B. Choice B
C. Choice C
D. Choice D

103. The cost of fire insurance for a manufacturing plant is generally considered to be a:

A. product cost.
B. period cost.
C. variable cost.
D. all of these.

104. An example of a period cost is:

A. fire insurance on a factory building.
B. salary of a factory supervisor.
C. direct materials.
D. rent on a headquarters building.

105. Transportation costs incurred by a manufacturing company to ship its product to its customers would be classified as which of the following?

A. Product cost
B. Manufacturing overhead
C. Period cost
D. Administrative cost

106. Micro Computer Company has set up a toll-free telephone line for customer inquiries regarding computer hardware produced by the company. The cost of this toll-free line would be classified as which of the following?

A. Product cost
B. Manufacturing overhead
C. Direct labor
D. Period cost

Essay Questions

107. The following information is available for the Netland Consulting Company for the fiscal year ended December 31.

Gross margin	$170,000
Operating profit	$ 65,500
Revenues	$809,000
Income tax rate	34%

Required:

(a) Compute the cost of services sold.

(b) Compute the total marketing and administrative costs.

(c) Compute net income.

108. The following information is available for the Ridgedale Manufacturing Company for the fiscal year ended December 31.

Revenues	$900,000
Gross margin	$315,000
Operating profit	85,000
Income tax rate	32%

Required:

(a) Compute the cost of goods sold.

(b) Compute the total marketing and administrative costs.

(c) Compute net income.

109. The following information is available for the Roberts Retail Store for the fiscal year ended December 31.

Ending inventory	$100,100
Transportation-in costs	$ 8,900
Purchase discounts	$ 15,000
Beginning inventory	$ 79,000
Merchandise cost	$450,000
Purchase returns and allowances	$ 6,200
Sales revenue	$800,000
Sales discounts	$ 12,500

Required:

(a) Prepare a cost of goods sold statement for Roberts Retail Store.

(b) Compute the gross margin for the fiscal year ended December 31.

110. **Required:**

For each of the following costs incurred in a manufacturing company, indicate whether the costs are (a) fixed or variable and (b) product costs or period costs.

	Cost Item	Fixed	Variable	Product	Period
0	Annual audit and tax return fees	X			X
1	Costs (other than food) of running the cafeteria for factory personnel				
2	Direct materials used				
3	Clerical staff in administrative offices				
4	Depreciation of factory machinery*				
5	Property taxes on the factory				
6	Insurance premiums on delivery vans				
7	Factory custodian pay				
8	Sales commissions				
9	Rent paid for corporate jet				
10	Transportation-in costs for indirect material				

*Straight-line depreciation method used.

111. The Plastechnics Company began operations several years ago. The company purchased a building and, since only half of the space was needed for operations, the remaining space was rented to another firm for rental revenue of $20,000 per year. The success of Plastechnics Company's product has resulted in the company needing more space. The renter's lease will expire next month and Plastechnics will not renew the lease in order to use the space to expand operations and meet demand.

The company's product requires direct materials that cost $25 per unit. The company employs a production supervisor whose salary is $2,000 per month. Production line workers are paid $15 per hour to manufacture and assemble the product. The company rents the equipment needed to produce the product at a rental cost of $1,500 per month. Additional equipment will be needed as production is expanded and the monthly rental charge for this equipment will be $900 per month. The building is depreciated on a straight-line basis at $9,000 per year.

The company spends $40,000 per year to market the product. Shipping costs for each unit are $20 per unit. The cost of electricity and other utilities used for product is $2 per unit. The company plans to liquidate several investments in order to expand production. These investments currently earn a return of $8,000 per year.

Required:

Complete the answer sheet that follows by placing an "X" under each heading that identifies the cost involved. The "X's" can be placed under *more than one heading* for a single cost, e.g., a cost might be a variable cost, and an overhead cost.

	Name of cost	Variable cost	Fixed cost	Direct materials	Direct labor	Mfg overhead	Period cost	Opportunity cost
1	Amount that can be earned renting building							
2	Cost of direct materials							
3	Salary of production supervisor							
4	Cost of direct labor							
5	Equipment rental cost							
6	Depreciation on building							
7	Marketing costs							
8	Shipping costs							
9	Electrical costs							
10	Foregone investment income							

112. The following cost and inventory data were taken from the records of the Beca Company for the year:

Costs incurred:

Depreciation, factory equipment	$30,000
Depreciation, office equipment	7,000
Supplies, factory	1,500
Maintenance, factory equipment	20,000
Utilities, factory	8,000
Sales commissions	30,000
Indirect labor	54,500
Rent, factory building	70,000
Purchases of direct materials (net)	124,000
Direct labor	80,000
Advertising expense	90,000

Inventories:

	January 1	December31
Direct materials	$9,000	$11,000
Work in process	6,000	21,000
Finished goods	69,000	24,000

Required:

(a) Compute the cost of goods manufactured.

(b) Prepare a cost of goods sold statement.

113. The Matter Manufacturing Company provided you with the following information for the fiscal year ended December 31.

Work-in-process inventory, 12/31	$ 57,900
Finished goods inventory, 1/1	307,400
Direct labor costs incurred	1,004,300
Manufacturing overhead costs	2,693,400
Direct materials inventory, 1/1	250,800
Finished goods inventory, 12/31	511,000
Direct materials purchased	1,750,200
Work-in-process inventory, 1/1	101,000
Direct materials inventory, 12/31	169,400

Required:

(a) Compute the total manufacturing costs incurred during the year.
(b) Compute the total work-in-process during the year.
(c) Compute the cost of goods manufactured during the year.
(d) Compute the cost of goods sold during the year.
(e) Compute the total prime costs for the year.
(f) Compute the total conversion costs for the year.

114. The cost accountant for the Larsen Manufacturing Company has provided you with the following information for the month of July:

	Variable costs Per unit	Total Fixed Costs
Direct labor	$27.50	
Direct materials	84.75	
Manufacturing overhead	14.25	$120,000
Marketing costs	5.30	50,000
Administrative costs	2.90	75,000

Required:

Compute the following *per unit* items, assuming the company produced and sold 5,000 units at a price of $210.00 per unit.

(a) Total variable cost
(b) Variable inventoriable cost
(c) Full absorption cost
(d) Full cost
(e) Contribution margin
(f) Gross margin
(g) Profit margin

115. The cost accountant for the Larsen Manufacturing Company has provided you with the following information for the month of July:

	Variable costs Per unit	Total Fixed Costs
Direct labor	$27.50	
Direct materials	84.75	
Manufacturing overhead	14.25	$120,000
Marketing costs	5.30	50,000
Administrative costs	2.90	75,000
Selling price	210.00	

Required:

Assuming the company produced and sold 5,000 units, and there were no units in inventory on July 1, prepare the following income statements for the month of July:

(a) Contribution margin income statement.
(b) Gross margin income statement.

116. Schuh Enterprises manufactures baseballs and identified the following costs associated with their manufacturing activity (V = Variable; F = Fixed). The following information is available for the month of June when 25,000 baseballs were produced, but only 23,500 baseballs were sold.

Power to run plant equipment (V)	$ 25,000
Other selling costs (V)	$149,150
Indirect labor (F)	$ 50,000
Property taxes on building (F)	$ 12,500
Marketing costs (V)	$ 30,000
Factory Supervisor salaries (F)	$125,000
Direct materials used (V)	$500,000
Depreciation on plant equipment (F)	$ 68,000
Shipping costs to customer (V)	$ 48,800
Indirect material and supplies (V)	$ 37,500
Direct labor (V)	$250,000
Administrative salaries (F)	$300,000
Insurance on factory building (F)	$ 62,500
Utilities, factory (V)	$ 50,000
General office costs (F)	$ 48,000

Required:

Compute the following amounts for July, assuming 30,000 baseballs were produced and sold: (Assume normal production ranges from 15,000 to 40,000 baseballs)

(a) Total manufacturing costs.
(b) Total conversion costs.
(c) Period costs per unit.
(d) Full costs per unit.

117. Each column below is independent and for a different company. Use the data given, which refer to one year for each example, to find the unknown account balances.

	Company		
	Southeast	**Central**	**Northwest**
Direct materials inventory, January 1	(a)	$3,920	$16,640
Direct materials inventory, December 31	$4,850	3,248	14,664
Work-in-process inventory, January 1	2,700	7,526	85,696
Work-in-process inventory, December 31	3,800	3,472	79,800
Finished goods inventory, January 1	1,900	(d)	17,888
Finished goods inventory, December 31	300	4,928	29,536
Purchases of direct materials	16,100	13,440	66,768
Cost of goods manufactured during this year	(b)	30,486	326,320
Total manufacturing costs	55,550	26,432	320,424
Cost of goods sold	56,050	30,464	314,673
Gross margin	(c)	18,368	666,931
Direct labor	26,450	4,256	129,688
Direct materials used	15,300	(e)	68,744
Manufacturing overhead	13,800	8,064	(g)
Sales revenue	103,300	(f)	981,604

118. The following data appeared in Hunter Company's records on December 31:

Direct materials inventory, December 31	$ 535,500
Direct materials purchased during the year	2,268,000
Finished goods inventory, December 31	567,000
Indirect labor	201,600
Direct labor	2,520,000
Factory heat, light, and power	234,360
Factory depreciation	393,900
Administrative salaries	323,820
Miscellaneous factory cost	200,970
Marketing costs	233,100
Other administrative costs	113,400
Maintenance on factory equipment	76,230
Insurance on factory equipment	119,700
Distribution costs	10,080
Taxes on manufacturing property	82,530
Legal fees on customer complaint	51,660
Direct materials put into production	2,407,230
Work-in-process inventory, December 31	154,980

On January 1 the Finished Goods Inventory account had a balance of $280,000, and the Work-in-process Inventory account had a balance of $90,650. Sales revenue for the year was $6,687,500.

Required:

Prepare a cost of goods sold statement and an income statement.

119. The information below has been taken from the cost records of Scottso Corp. for the past year:

Raw materials used in production		$326
Total manufacturing costs charged to production during the year (includes $135 of factory overhead)		686
Cost of goods available for sale		826
Selling & administrative expenses		25
Inventories:	Beginning	Ending
Direct materials	75	85
Work in process	80	30
Finished goods	90	110

Required:

a. Calculate the cost of direct materials purchased during the year.

b. Calculate the direct labor costs charged to production during the year.

c. Calculate the cost of goods manufactured during the year.

d. Calculate the cost of goods sold for the year.

120. Information from the records of the Garver Production Company for the month of January is as follows:

Purchases of direct materials	$18,000
Indirect labor	5,000
Direct labor	10,400
Depreciation on factory machinery	3,000
Sales	55,300
Selling and administrative expenses	6,300
Rent on factory building	7,000

Inventories	January 1	January 31
Direct materials	$8,000	$8,700
Work-in-process	2,100	3,200
Finished goods	5,000	5,700

Required:

a. Prepare a statement of cost of goods manufactured for the month of January.

b. Prepare an income statement for the month of January.

121. The information below has been taken from the cost records of Benno Corp. for the past year:

Raw materials used in production		$572
Total manufacturing costs charged to production during the year (includes $255 of factory overhead)		1,095
Cost of goods available for sale		1,415
Selling & administrative expenses		255
Inventories:	Beginning	Ending
Direct materials	175	155
Work in process	220	190
Finished goods	290	310

Required:

a. Calculate the cost of direct materials purchased during the year.

b. Calculate the direct labor costs charged to production during the year.

c. Calculate the cost of goods manufactured during the year.

d. Calculate the cost of goods sold for the year.

122. Information from the records of the Seiler Production Company for the month of July is as follows:

July is as follows:

Purchases of direct materials		$24,000
Indirect labor		6,500
Direct labor		13,200
Depreciation on factory machinery		3,600
Sales		75,300
Selling and administrative expenses		8,900
Rent on factory building		8,400
Inventories	January 1	January 31
Direct materials	$8,000	$6,700
Work-in-process	1,100	1,600
Finished goods	9,000	6,800

Required:

a. Prepare a statement of cost of goods manufactured for the month of July.

b. Prepare an income statement for the month of July.

123. The Moundsview Company provided you with the following information for the fiscal year ended December 31.

Work-in-process inventory, 12/31	$ 115,800
Finished goods inventory, 1/1	614,800
Direct labor costs incurred	2,008,600
Manufacturing overhead costs	5,368,800
Direct materials inventory, 1/1	501,600
Finished goods inventory, 12/31	1,022,000
Direct materials purchased	3,500,400
Work-in-process inventory, 1/1	202,000
Direct materials inventory, 12/31	338,800

Required:

(a) Compute the total manufacturing costs incurred during the year.

(b) Compute the total work-in-process during the year.

(c) Compute the cost of goods manufactured during the year.

(d) Compute the cost of goods sold during the year.

(e) Compute the total prime costs for the year.

(f) Compute the total conversion costs for the year.

124. The Boyceville Machining Company provided you with the following information for the fiscal year ended December 31.

Work-in-process inventory, 12/31	$ 28,950
Finished goods inventory, 1/1	153,700
Direct labor costs incurred	502,150
Manufacturing overhead costs	1,364,700
Direct materials inventory, 1/1	125,400
Finished goods inventory, 12/31	255,500
Direct materials purchased	875,100
Work-in-process inventory, 1/1	50,500
Direct materials inventory, 12/31	84,700

Required:

(a) Compute the total manufacturing costs incurred during the year.

(b) Compute the total work-in-process during the year.

(c) Compute the cost of goods manufactured during the year.

(d) Compute the cost of goods sold during the year.

125. Finkler Retail has collected the following information for May:

Sales revenue	$ 1,650,000
Store rent	84,000
Utilities	57,200
Sales commissions	247,500
Merchandise inventory, 5/1	118,200
Merchandise inventory, 5/1	118,200
Freight-in	54,600
Administrative costs	115,100
Merchandise purchases	1,091,000

Required: Prepare an income statement for the month of May

126. Fowler Retail has collected the following information for August:

Sales revenue	$ 1,155,000
Store rent	58,800
Utilities	40,400
Sales commissions	173,300
Merchandise inventory, 8/1	87,220
Merchandise inventory, 8/31	82,740
Freight-in	30,300
Administrative costs	80,600
Merchandise purchases	763,700

Required: Prepare an income statement for the month of August.

127. Sid Freeman has developed a new electronic device that he has decided to produce and market. The production facility will be in a nearby industrial park which Sid will rent for $4,000 per month. Utilities will cost about $500 per month. He will use his personal computer, which he purchased for $2,000 last year, to monitor the production process. The computer will become obsolete before it wears out from use. The computer will be depreciated at the rate of $1,000 per year. He will rent production equipment at a monthly cost of $8,000. Sid estimates the material cost per finished unit of product to be $50, and the labor cost to be $10. He will hire workers, and spend his time promoting the product. To do this he will quit his job which pays $4,500 per month. Advertising will cost $2,000 per month. Sid will not draw a salary from the new company until it gets well established.

Required:

Complete the chart below by placing an "X" under each heading that helps to identify the cost involved. There can be "Xs" placed under more than one heading for a single cost; e.g., a cost might be a sunk cost, an overhead cost, and a product cost. There would be an "X" placed under each of these headings opposite the cost.

					Product Cost				
	Oppor-tunity Cost	Sunk Cost	Variable Cost	Fixed Cost	Direct Materials	Direct Labor	Manufac-turing Overhead	Selling Cost	Differ-ential Cost
Facility rent									
Utilities									
Personal computer depreciation									
Equipment rent									
Material cost									
Labor cost									
Present salary									
Advertising									

*Between the alternatives of producing and not producing the device.

128. A manufacturing company, has provided the following data for the month of May:

Inventories:	Beginning	Ending
Raw materials.....	$36,000	$24,000
Finished goods	$57,000	$28,000

Raw materials purchased during May totaled $69,000 and the cost of goods manufactured totaled $146,000.

Required:

a. What was the cost of raw materials used in production during May? Show your work.
b. What was the cost of goods sold for May? Show your work.

129. During the month of January, Fisher Corporation, a manufacturing company, purchased raw materials costing $76,000. The cost of goods manufactured for the month was $129,000. The beginning balance in the raw materials account was $26,000 and the ending balance was $21,000. The beginning balance in the finished goods account was $52,000 and the ending balance was $35,000.

Required:

a. What was the cost of raw materials used in production during January? Show your work.
b. What was the cost of goods sold for January? Show your work.

130. A partial listing of costs incurred at Rust Corporation during August appears below:

Direct materials	$135,000
Utilities, factory	$11,000
Sales commissions	$69,000
Administrative salaries	$101,000
Indirect labor	$29,000
Advertising	$94,000
Depreciation of production equipment	$31,000
Direct labor	$73,000
Depreciation of administrative equipment	$40,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

131. Machowski Corporation has provided the following partial listing of costs incurred during November:

Marketing salaries	$47,000
Property taxes, factory	$6,000
Administrative travel	$113,000
Sales commissions	$56,000
Indirect labor	$36,000
Direct materials	$119,000
Advertising	$63,000
Depreciation of production equipment	$56,000
Direct labor	$117,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

132. In October, Ringler Corporation had sales of $273,000, selling expenses of $26,000, and administrative expenses of $47,000. The cost of goods manufactured was $183,000. The beginning balance in the finished goods inventory account was $45,000 and the ending balance was $34,000.

Required:

Prepare an Income Statement in good form for October.

133. In July, Neidich Inc., a merchandising company, had sales of $295,000, selling expenses of $24,000, and administrative expenses of $29,000. The cost of merchandise purchased during the month was $215,000. The beginning balance in the merchandise inventory account was $25,000 and the ending balance was $30,000.

Required:

Prepare an Income Statement in good form for July.

134. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of heating a hardware store	Dollar sales
2.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled
3.	Cost of tomato sauce used at a pizza shop	Pizzas cooked
4.	Cost of shipping bags of fertilizer to a customer at a chemical plant	Bags shipped
5.	Cost of electricity for production equipment at a snowboard manufacturer	Snowboards produced
6.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced
7.	Cost of vaccine used at a clinic	Vaccines administered
8.	Cost of sales at a hardware store	Dollar sales
9.	Receptionist's wages at dentist's office	Number of patients
10.	Salary of production manager at a snowboard manufacturer	Snowboards produced

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

135. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of renting production equipment on a monthly basis at a surfboard manufacturer	Surfboards produced
2.	Pilot's salary on a regularly scheduled commuter airline	Number of passengers
3.	Cost of dough used at a pizza shop	Pizzas cooked
4.	Janitorial wages at a surfboard manufacturer	Surfboards produced
5.	Cost of shipping bags of garden mulch to a retail garden store	Bags shipped
6.	Salary of production manager at a surfboard manufacturer	Surfboards produced
7.	Property tax on corporate headquarters building	Dollar sales
8.	Cost of heating an electronics store	Dollar sales
9.	Shift manager's wages at a coffee shop	Dollar sales
10.	Cost of bags used in packaging chickens for shipment to grocery stores	Crates of chicken shipped

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

136. A number of costs are listed below.

	Cost Description	Cost Object
1.	Supervisor's wages in a computer manufacturing facility	A particular personal computer
2.	Salary of the president of a home construction company	A particular home
3.	Cost of tongue depressors used in an outpatient clinic at a hospital	The outpatient clinic
4.	Cost of lubrication oil used at the auto repair shop of an automobile dealer	The auto repair shop
5.	Manager's salary at a hotel run by a chain of hotels	The particular hotel
6.	Cost of screws used to secure wood trim in a yacht at a yacht manufacturer	A particular yacht
7.	Accounting professor's salary	The Accounting Department
8.	Cost of a measles vaccine administered at an outpatient clinic at a hospital	A particular patient
9.	Cost of electronic navigation system installed in a yacht at a yacht manufacturer	A particular yacht
10.	Wood used to build a home	A particular home

Required:

For each item above, indicate whether the cost is direct or indirect with respect to the cost object listed next to it.

137. The following data relates to the Sunshine Company:

Direct Materials Inventory, Beginning	$ 40
Direct Materials Inventory, Ending	50
Direct Materials Purchases	210
Direct Labor	350
Finished Goods Inventory, Beginning	100
Finished Goods Inventory, Ending	95
Factory overhead	153
Work-in-Process Inventory, Beginning	65
Work-in-Process Inventory, Ending	80

Required: Calculate direct materials purchased, direct labor costs, and cost of goods sold.

138. A computer virus destroyed some of the accounting records for Hampton Furniture Company for the periods of 2008-2010. The following information was salvaged from the computer system.

	12/31/08	12/31/09	12/31/10
Beginning direct materials	$ 50,250	**F**	$ 45,210
Purchases of direct materials	**A**	65,250	70,125
Ending direct materials	34,165	45,210	**L**
Direct materials used	91,385	54,205	**M**
Direct labor	**B**	155,050	162,000
Manufacturing overhead	115,325	**G**	127,145
Total manufacturing costs	**C**	319,255	364,130
Beginning work-in-process inventory	36,4590	**H**	29,635
Ending work-in-process inventory	21,985	29,635	**N**
Costs of goods manufactured	386,700	**I**	362,920
Beginning finished goods inventory	37,000	**J**	42,500
Ending finished goods inventory	**D**	42,500	39,550
Cost of goods sold	377,050	$315,755	**O**
Net sales	550,000	$495,000	**P**
Selling and Administrative Expenses	135,950	**K**	130,130
Net income	**E**	$ 46,250	39,000

Required: Determine the correct amounts for A through P.

139. Dave's Lighting Inc. produces lamps. During 2012, the company incurred the following costs:

Factory rent	$ 80,000
Direct labor used	425,000
Factory utilities	50,000
Direct materials purchases	600,000
Indirect materials	150,000
Indirect labor	90,000

Inventories for the year were:

	January 1	December 31
Direct materials	$100,000	$ 75,000
Work in process	20,000	10,000
Finished goods	250,000	215,000

Required: Prepare a statement of cost of goods manufactured and cost of goods sold.

140. Explain the difference between an outlay cost, and expense, and an opportunity cost.

141. Explain the difference between a cost, a cost object, and a cost pool.

142. Explain the difference between direct materials inventory, work in process inventory, finished goods inventory and cost of goods sold.

143. Explain the difference between cost of goods manufactured and cost of goods sold.

144. Explain the difference between a direct cost and an indirect cost.

145. The following information applies to the Johnson Tools Company for the year ended December 31, 2010:

Factory Rent	$ 330,000
Direct Materials Inventory, Beginning	96,000
Direct Materials Inventory, Ending	87,000
Direct Materials Purchases	654,000
Direct Labor--Wages	425,000
Indirect Labor--Wages	28,000
Finished Goods Inventory, Beginning	25,000
Finished Goods Inventory, Ending	44,000
Indirect Materials	66,000
Plant Utilities	40,000
General and Administrative	101,350
Work-in-Process Inventory, Beginning	27,000
Work-in-Process Inventory, Ending	33,000
Marketing Expenses	225,000
Sales Revenue	2,550,000

Required: Prepare a statement of cost of goods manufactured and an income statement for the year ended December 31, 2010

146. The following information applies to the General Lawnmower Company for the year ended December 31, 2010:

Factory Rent	$ 80,000
Direct Materials Inventory, Beginning	50,000
Direct Materials Inventory, Ending	45,000
Direct Materials Purchases	325,000
Direct Labor--Wages	550,000
Indirect Labor--Wages	25,000
Finished Goods Inventory, Beginning	50,000
Finished Goods Inventory, Ending	75,000
Indirect Materials	50,000
Plant Utilities	25,000
General and Administrative	130,000
Work-in-Process Inventory, Beginnin	50,000
Work-in-Process Inventory, Ending	55,000
Marketing Expenses	180,000
Sales Revenue	1,825,000

Required: Prepare a statement of cost of goods manufactured and an income statement for the year ended December 31, 2010.

147. Standford Corporation has provided the following data for the month of February:

Sales	$280,000
Raw materials purchases	$76,000
Direct labor cost	$42,000
Manufacturing overhead	$77,000
Selling expense	$20,000
Administrative expense	$35,000

Inventories:	Beginning	Ending
Raw materials	$22,000	$33,000
Work in process	$15,000	$23,000
Finished goods	$52,000	$43,000

Required:

a. Prepare a Schedule of Cost of Goods Manufactured in good form for February.

b. Prepare an Income Statement in good form for February.

148. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of heating a hardware store	Dollar sales
2.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled
3.	Cost of tomato sauce used at a pizza shop	Pizzas cooked
4.	Cost of shipping bags of fertilizer to a customer at a chemical plant	Bags shipped
5.	Cost of electricity for production equipment at a snowboard manufacturer	Snowboards produced
6.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced
7.	Cost of vaccine used at a clinic	Vaccines administered
8.	Cost of sales at a hardware store	Dollar sales
9.	Receptionist's wages at dentist's office	Number of patients
10.	Salary of production manager at a snowboard manufacturer	Snowboards produced

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

149. You have the following information regarding Crosby Company:

Sales 25,000 units per year at $45 per unit
Production 30,000 units in 2007 and 20,000 units in 2008
At the beginning of 2007 there was no inventory.
Variable manufacturing costs are $30.00 per unit
Fixed manufacturing costs are $150,000 per year
Marketing costs are all fixed at $75,000 per year

Required:

(a) Prepare an income statement under absorption costing for 2007 and 2008. Include a column for both years taken together.
(b) Prepare an income statement under variable costing for 2007 and 2008. Include a column for both years taken together.
(c) Comment on the results and reconcile any differences in income.

150. Dimmick Corporation produces and sells a single product at $40 per unit. During 2012, the company produced 200,000 units, 160,000 of which were sold during the year. All ending inventory was in finished goods inventory; there was no inventory on hand at the beginning of the year. The following data relate to the company's production process:

Direct materials	$550,000
Direct labor	400,000
Variable Manufacturing overhead	100,000
Fixed Manufacturing overhead	300,000
Variable marketing and administrative	160,000
Fixed marketing and administrative	110,000

Required:

Calculate the following.

(a) The unit cost of ending inventory on the balance sheet prepared for stockholders.

(b) The unit cost of ending inventory on a variable cost balance sheet.

(c) The operating income using absorption costing

(d) The operating income using variable costing.

(e) The ending inventory using absorption costing.

(f) The ending inventory using variable costing.

(g) A reconciliation of the difference in operating income between absorption costing and variable costing using the shortcut method.

151. Consider the following cost and production information for Bedell Metal Company, Inc.

	Part C-2472		Part D-1340		All other parts	
Quantity	**144**		**120**		**1140**	
	Subtotal	Average Per unit	Subtotal	Average Per unit	Subtotal	Average Per unit
Direct costs						
Materials cost	$ 180,000	$ 1,250	$405,000	$ 3,375	$2,446,440	$ 2,146
Conversion cost	72,000	500	129,000	1,075	974.700	855
Total direct costs	$252,000	$ 1,750	$534,000	$4,450	$3,421,140	$ 3,001
Indirect costs						
Indirect production						
Cost	885,600	6,150	738,000	6,150	7,011,000	6,150
Indirect operating cost	723,600	5,025	603,000	5,025	5,728,480	5,025
Total indirect costs	$1,609,200	$11,175	$ 1,341,000	$11,175	$12,739,480	$11,175
Total costs	$1,861,200	$12,925	$ 1,875,000	$15,625	$16,160,620	$14,176

Additional information:

- Sales revenue: $20,000,000
- Beginning inventory: $1,150,000
- Sales of part D-1340: 80 units
- Sales of all other parts are the same as the number of units produced.
- Sales price of part D-1340: $35,500 per unit
- The only spending increase was for material cost due to increased production. All other spending as shown above was unchanged.

Bedell Metal Company uses the variable costing method.

Required

(a) Compute the contribution margin, operating income, and ending inventory for Bedell Metal Company

(b) Assume that sales of part D-1340 increases by 30 units to 110 units during the given period (production remains constant). Re-compute the above figures.

(c) Mary Keenan, the controller of Bedell Metal Company., is considering the use of absorption costing instead of variable costing to be in line with financial reporting requirements. She knows that the use of a different costing method will give rise to different incentives. Explain to her how alternative methods of calculating product costs create different incentives.

152. Consider the following cost and production information for Dover Automotive Components, Inc.

	Part C-1849		Part D-1251		All other parts	
Quantity	**72**		**60**		**570**	
		Average		Average		Average
	Subtotal	Per unit	Subtotal	Per unit	Subtotal	Per unit
Direct costs						
Materials cost	$ 45,000	$ 625	$101,400	$ 1,690	$ 611,610	$ 1,073
Conversion cost	18,000	250	32,400	540	243,960	428
Total direct costs	$ 63,000	$ 875	$133,800	$2,230	$ 855,570	$ 1,501
Indirect costs						
Indirect manufacturing cost	221,400	3,075	184,500	3,075	1,752,750	3,075
Indirect operating cost	181,080	2,515	150,900	2,515	1,433,550	2,515
Total indirect costs	$402,480	$ 5,590	$ 335,400	$ 5,590	$3,186,300	$ 5,590
Total costs	$465,480	$ 6,465	$ 469,200	$ 7,820	$4,041,870	$ 7,091

Additional information:

- Sales revenue: $5,200,000
- Beginning inventory: $275,000
- The only spending increase was for material cost due to increased production. All other spending as shown above was unchanged.
- Sales of all parts are the same as the number of units produced.

Dover Automotive Components, Inc. uses the absorption costing method.

Required:

(a) Compute the gross margin, operating income, and ending inventory for Dover Automotive Components, Inc.

(b) Assume that production of part D-1251 increases by 25 units during the given period (sales remain constant). Re-compute the above figures.

(c) Ernest Murphy, the cost manager of Dover Automotive Components, argues with the controller that variable costing is a better method for product costing. Using the information in part b above, re-compute the operating income for Dover Automotive Components using variable costing. Explain any differences in the operating incomes obtained under the two different methods.

153. Hurwitz Corporation had the following activities during 2007:

Raw Materials:	
Inventory January 1, 2007	$200,000
Purchases of raw materials	318,000
Inventory December 31,2007	210,000
Direct manufacturing labor	180,000
Utilities: plant	50,000
Depreciation: plant and equipment	40,000
Indirect materials	30,000
Indirect labor	150,000
Other manufacturing overhead	60,000
Sales revenues	1,250,000
Selling and administrative expenses	150,000
Income tax rate	30%
Work in process inventory, December 31,2007	120,000
Work in process inventory, January 1,2007	64,000
Finished goods inventory, January 1, 2007	80,000
Finished goods inventory, December 31, 2007	150,000

Required:

(a) Prepare a schedule of cost of goods manufactured for 2007.

(b) Prepare a schedule of cost of goods sold for 2007.

(c) Prepare an income statement for 2007.

154. Lyon Toys, Inc. (LTI) manufactures a variety of electronic toys for children aged 3 to 14 years. The company started as a Ma & Pa basement operation, and grew steadily over the last nine years. It now employs over 100 people and has sales revenue of over $250 million. Katie Burger, the CEO of LTI also recognizes that competition has increased during this period; therefore future growth will not be easy.

Burger recognizes that one of the areas of weakness is the accounting and costing system. Burger's maternal uncle, Martin, had maintained the accounts for the company. He meticulously kept track of all the invoices that were received, payments made, and painstakingly prepared crude annual reports. With Martin passing away at the age of 85, Burger decided to hire a professional cost management expert to keep track of the company's costs. She hired Molly Wright, who had just completed her CMA.

After acquainting Wright with the company and its people, Burger decided to get down to business. She called Wright to her office to have a serious conversation about accounting and costing, in particular.

Burger: Molly, I would like you to pay particular attention to developing an official costing system. Currently, we don't have one. I believe this should be your first priority because competition is rising and if we do not understand our costs, we might start losing to our rivals.

Wright: I understand your point very well, Ms. Burger.

Burger: Call me Katie.

Wright: Very well, Katie. I have a few ideas that I picked up from my CMA courses that I think are worth implementing. However, it looks like we need to start with the basics.

Required:

Assume the role of Molly Wright. Write a brief report outlining the basics of a cost management information system. Include in your report the following:

- Resources and costs
- Supply of resources vs. the use of resources
- Classification of costs (three dimensions of resources)
- Alternative costing systems

Chapter 02 Cost Concepts and Behavior Answer Key

True / False Questions

1. The cost of an item is the sacrifice of resources made to acquire it.

   TRUE

   This statement is the definition of cost.

   AACSB: Analytic
   AICPA FN: Measurement
   Blooms: Understand
   Difficulty: 1 Easy
   Learning Objective: 02-01 Explain the basic concept of "cost."
   Topic Area: What Is a Cost?

2. An expense is an expired cost matched with revenues in a specific accounting period.

   TRUE

   This statement is the definition of expense.

   AACSB: Analytic
   AICPA FN: Measurement
   Blooms: Understand
   Difficulty: 1 Easy
   Learning Objective: 02-01 Explain the basic concept of "cost."
   Topic Area: Cost versus Expenses

3. An asset is a cost matched with revenues in a future accounting period.

TRUE

This statement is the definition of asset.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

4. Accounting systems typically record opportunity costs as assets and treat them as intangible items on the financial statements.

FALSE

Opportunity costs are not reflected in the accounting system-they are what did not happen.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

5. Total cost of goods purchased *minus* beginning merchandise inventory *plus* ending merchandise inventory *equals* cost of goods sold.

FALSE

Purchases plus beginning inventory minus ending inventory equals cost of goods sold.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 3 Hard
Learning Objective: 02-02 Explain how costs are presented in financial statements.

Topic Area: Retail and Wholesale Companies

6. Cost of goods sold includes the actual costs of the goods sold and the cost of selling them to the customer.

FALSE

Cost of goods sold does not include selling costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Retail and Wholesale Companies

7. Period costs are those costs assigned to units of production in the period in which they are incurred.

FALSE

This statement describes product costs, not period costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 3 Hard
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

8. Only direct costs can be classified as product costs; indirect costs are classified as period costs.

FALSE

Product costs can include both direct and indirect costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember

Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

9. The three categories of product costs are direct materials, direct labor, and manufacturing overhead.

TRUE

This statement is the definition of product cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Understand
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

10. The first step in determining whether a cost is direct or indirect is to specify the cost allocation rule.

FALSE

This is the first step to define the cost object.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost Allocation

11. Total work-in-process during the period is the sum of the beginning work-in-process inventory and the total manufacturing costs incurred during the period.

TRUE

This is the correct formula for total work-in-process.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: How Costs Flow through the Statements

12. Cost of goods sold *plus* the ending finished goods inventory *minus* the beginning finished goods inventory *equals* the cost of goods manufactured.

TRUE

This statement works backwards from cost of goods sold to cost of goods manufactured.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 3 Hard
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: How Costs Flow through the Statements

13. If the cost of goods manufactured during the period exceeds the cost of goods sold, the ending balance of Finished Goods Inventory account increased.

TRUE

Cost of goods sold = cost of goods manufactured + beginning finished goods inventory - ending finished goods inventory.

AACSB: Analytic

AICPA FN: Measurement
Blooms: Remember
Difficulty: 3 Hard
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Work in Process

14. Total variable costs change inversely with changes in the volume of activity.

FALSE

Total variable costs are linear and vary directly with changes in the volume of activity, fixed costs vary inversely.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

15. Fixed costs per unit change inversely with changes in the volume of activity.

TRUE

Fixed costs per unit would vary inversely with the volume of activity.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

16. The range within which fixed costs remain constant as volume of activity varies is known as the relevant range.

TRUE

This statement is the definition of a relevant range.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

17. The term *full cost* refers to the cost of manufacturing and selling a unit of product and includes both fixed and variable costs.

TRUE

We need to distinguish between full cost (which includes selling costs) and full absorption cost (which does not include selling costs.)

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

18. Variable marketing and administrative costs are included in determining full absorption costs.

FALSE

The two costs are included in full cost and not in determining full absorption costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium

Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

19. Revenue *minus* cost of goods sold *equals* contribution margin.

FALSE

Revenue minus cost of goods sold equals gross margin.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: How to Make Cost Information More Useful for Managers

20. The primary goal of the cost accounting system is to provide managers with information to prepare their annual financial statements.

FALSE

The primary goal is to provide managers with information for decision making.

AACSB: Analytic
AICPA FN: Decision Making
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Developing Financial Statements for Decision Making

Multiple Choice Questions

21. Which of the following statements is (are) true?

(1). An asset is a cost that will be matched with revenues in a future accounting period.
(2). Opportunity costs are recorded as intangible assets in the current accounting period.

A. Only (1) is true.
B. Only (2) is true.
C. Both (1) and (2) are true.
D. Neither (1) nor (2) are true.

Opportunity costs are not recorded.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

22. Which of the following statements is (are) false?
(1). In general, the term *expense* is used for managerial purposes, while the term *cost* refers to external financial reports.
(2). An opportunity cost is the benefit forgone by selecting one alternative over another.

A. Only (1) is false.
B. Only (2) is false.
C. Both (1) and (2) are false.
D. Neither (1) nor (2) are false.

Expense is for external financial statements.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

23. Which of the following best distinguishes an opportunity cost from an outlay cost?

A. Opportunity costs are recorded, whereas outlay costs are not.
B. Outlay costs are speculative in nature, whereas opportunity costs are easily traceable to products.
C. Opportunity costs have very little utility in practical applications, whereas outlay costs are always relevant.
D. Opportunity costs are sacrifices from foregone alternative uses of resources, whereas outlay costs are cash outflows.

This statement reflects the correct difference in the terms.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

24. Which of the following accounts would be a period cost rather than a product cost?

A. Depreciation on manufacturing machinery.
B. Maintenance on factory machines.
C. Production manager's salary.
D. Direct Labor.
E. Freight out.

Freight out is a selling cost while all the others are production costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

25. A company which manufactures custom-made machinery routinely incurs sizable telephone costs in the process of taking sales orders from customers. Which of the following is a proper classification of this cost?

A. Product cost
B. Period cost
C. Conversion cost
D. Prime cost

Telephone costs are a selling cost rather than a production cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

26. For a manufacturing company, which of the following is an example of a period cost rather than a product cost?

A. Wages of salespersons.
B. Salaries of machine operators.
C. Insurance on factory equipment.
D. Depreciation of factory equipment.

Wages of salespeople would be a selling cost which is a period cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Nonmanufacturing (Period) Costs

27. XYZ Company manufactures a single product. The product's prime costs consist of

A. direct material and direct labor.
B. direct material and factory overhead.
C. direct labor and factory overhead.
D. direct material, direct labor and factory overhead.
E. direct material, direct labor and variable factory overhead.

This is the definition of prime cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

28. Which of the following costs is both a prime cost and a conversion cost?

A. direct materials
B. direct labor
C. manufacturing overhead
D. administrative costs
E. marketing costs

This item in fact is the only item that fits both terms.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Prime Costs and Conversion Costs

29. Marketing costs include all of the following except:

A. Advertising.
B. Shipping costs.
C. Sales commissions.
D. Legal and accounting fees.
E. Office space for sales department.

Legal and accounting are administrative rather than marketing.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Nonmanufacturing (Period) Costs

30. Property taxes on the manufacturing facility are an element of

	Conversion Cost	Period Cost
a.	No	No
b.	No	Yes
c.	Yes	No
d.	Yes	Yes

A. Option A.
B. Option B.
C. Option C.
D. Option D.

Property tax is a product cost since it is a part of manufacturing, but taxes are also indirect, so they are a conversion cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply

Difficulty: 3 Hard
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

31. Classifying a cost as either direct or indirect depends upon

A. whether an expenditure is unavoidable because it cannot be changed regardless of any action taken.
B. whether the cost is expensed in the period in which it is incurred.
C. the behavior of the cost in response to volume changes.
D. the cost object to which the cost is being related.

This is the definition for classifying a cost as either direct or indirect.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Direct versus Indirect Costs

32. The beginning Work-in-Process inventory plus the total of the manufacturing costs equals

A. total finished goods during the period.
B. cost of goods sold for the period.
C. total work-in-process during the period.
D. cost of goods manufactured for the period.

Total work-in-process during the period is equal to the beginning Work-in-Process inventory plus the total of the manufacturing costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Work in Process

33. The cost of the direct labor will be treated as an expense on the income statement when the resulting:

A. payroll costs are paid.
B. payroll costs are incurred.
C. products are completed.
D. products are sold.

This solution supports the matching principle.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

34. Inventoriable costs:

A. include only the prime costs of manufacturing a product.
B. include only the conversion costs of providing a service.
C. exclude fixed manufacturing costs.
D. are regarded as assets until the units are sold.
E. are regarded as expenses when the costs are incurred.

This statement is in compliance with the definition of an asset.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Gross Margin versus Contribution Margin Income Statements

35. A product cost is deducted from revenue when

A. the finished goods are sold.
B. the expenditure is incurred.
C. the production process takes place.
D. the production process is completed.
E. the finished goods are transferred to the Finished Goods Inventory.

This solution supports the matching principle.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

36. The amount of direct materials issued to production is found by

A. subtracting ending work in process from total work in process during the period.
B. adding beginning direct materials inventory and the delivered cost of direct materials.
C. subtracting ending direct materials from direct materials available for production.
D. adding delivered cost of materials, labor, and manufacturing overhead.
E. subtracting purchases discounts and purchases returns and allowances from purchases of direct material plus freight-in.

This statement describes the flow of cost through the inventory account.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

37. The beginning Finished Goods Inventory plus the cost of goods manufactured equals

A. ending finished goods inventory.
B. cost of goods sold for the period.
C. total work-in-process during the period.
D. total cost of goods manufactured for the period.
E. cost of goods available for sale for the period.

This is the sum of the two terms indicated in the statement.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

38. Direct labor would be part of the cost of the ending inventory for which of these accounts?

A. Work-in-Process.
B. Finished Goods.
C. Direct Materials and Work-in-Process.
D. Work-in-Process and Finished Goods.
E. Direct Materials, Work-in-Process, and Finished Goods.

This choice accurately explains the role of direct labor in the inventory accounts.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

39. The Work-in-Process Inventory of the Rapid Fabricating Corp. was $3,000 higher on December 31, 2012 than it was on January 1, 2012. This implies that in 2012

A. cost of goods manufactured was higher than cost of goods sold.
B. cost of goods manufactured was less than total manufacturing costs.
C. manufacturing costs were higher than cost of goods sold.
D. manufacturing costs were less than cost of goods manufactured.
E. cost of goods manufactured was less than cost of goods sold.

This statement accurately reflects the explanation for the change in the work-in-process account during the year.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

40. Which of the following is *not* a product cost under full-absorption costing?

A. Direct materials used in the current period
B. Rent for the warehouse used to store direct materials
C. Salaries paid to the top management in the company
D. Vacation pay accrued for the production workers

Management salaries are a period cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

41. The term "gross margin" for a manufacturing firm refers to the excess of sales over:

A. cost of goods sold, excluding fixed indirect manufacturing costs.
B. all variable costs, including variable marketing and administrative costs.
C. cost of goods sold, including fixed indirect manufacturing costs.
D. variable costs, excluding variable marketing and administrative costs.
E. total manufacturing costs, including fixed indirect manufacturing costs.

This statement is a definition of the term "gross margin."

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

42. How would property taxes paid on a factory building be classified in a manufacturing company?

A. Fixed, period cost.
B. Fixed, product cost.
C. Variable, period cost.
D. Variable, product cost.

Taxes are fixed in behavior, and since they are in the manufacturing area they are a product cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

43. How would miscellaneous supplies used in assembling a product be classified for a manufacturing company?

A. Fixed, period cost.
B. Fixed, product cost.
C. Variable, period cost.
D. Variable, product cost.

Supplies are variable in behavior, and since they are in the assembly area they are a product cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

44. 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.

The use of a percentage implies a variable cost and being paid to sales personnel it is a period cost.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

45. The student health center employs one doctor, three nurses, and several other employees. How would you classify (1) the nurses' salary and (2) film and other materials used in radiology to give X-rays to students? Assume the activity is the number of students visiting the health center.

	Nurse's Salaries	Film and Other Materials Used in Radiology
a.	Fixed cost	Fixed cost
b.	Fixed cost	Variable cost
c.	Variable cost	Fixed cost
d.	Variable cost	Variable cost
e.	Mixed cost	Mixed cost

A. Option A

B. Option B

C. Option C

D. Option D

The nurse's salary is a fixed cost while the film and other radiology materials are variable costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

46. Pete's Pizza Place has four pizza makers and ten other employees who take orders from customers and perform other tasks. The four pizza makers and the other employees are paid an hourly wage. How would one classify (1) the wages paid to the pizza makers and other employees and (2) materials (e.g., cheeses, sauce, etc.) used to make the pizza? Assume the activity is the number of pizzas made.

	Employees' Wages	Materials to make the pizza
a.	Fixed cost	Fixed cost
b	Fixed cost	Variable cost
c.	Variable cost	Fixed cost
d.	Mixed cost	Variable cost
e.	Mixed cost	Mixed cost

A. Option A
B. Option B
C. Option C
D. Option D

Employees would be a mixed cost (both fixed and variable) while the materials to make pizza are variable.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

47. Which of the following statements is (are) true?

(1). The term *full cost* refers to the cost of manufacturing and selling a unit of product and includes both fixed and variable costs.
(2). The fixed cost per unit is considered constant despite changes in volume of activity within the relevant range.

A. Only (1) is true.
B. Only (2) is true.
C. Both (1) and (2) are true.
D. Neither (1) nor (2) are true.

Part (1) is true-full cost is both product and selling costs; part (2) is false because fixed cost per unit varies inversely with volume while total fixed cost is constant.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

48. Given the following information for a retail company, what is the total cost of goods purchased for the period?

Purchases discounts	$ 3,500
Transportation-in	6,700
Ending inventory	35,000
Gross merchandise cost	304,000
Purchases returns	8,400
Beginning inventory	27,000
Sales discounts	10,300

A. $298,800
B. $290,800
C. $282,100
D. $304,000

All costs associated with the acquisition of the goods constitutes the cost of goods purchased ($304,000 = $6,700 - $3,500 - $8,400 = $298,800.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

49. A company had beginning inventories as follows: Direct Materials, $300; Work-in-Process, $500; Finished Goods, $700. It had ending inventories as follows: Direct Materials, $400; Work-in-Process, $600; Finished Goods, $800. Material Purchases (net including freight) were $1,400, Direct Labor $1,500, and Manufacturing Overhead $1,600. What is the Cost of Goods Sold for the period?

A. $4,100.
B. $4,200.
C. $4,300.
D. $4,400.

$300 + $1,400 - $400 = $1,300 (Direct materials used in production)
$500 + $1,300 + $1,500 + $1,600 - $600 = $4,300 (COGM)
$700 + $4,300 - $800 = $4,200 (COGS)

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

50. Compute the Cost of Goods Sold for 2008 using the following information:

Direct Materials, January 01, 2008	$40,000
Work-in-Process, December 31, 2008	69,000
Direct Labor	48,500
Finished Goods, December 31,2008	105,000
Finished Goods, January 01, 2008	128,000
Manufacturing Overhead	72,500
Direct Materials, December 31,2008	43,000
Work-in Process, January 01, 2008	87,000
Purchases of direct material	75,000

A. $244,000

B. $234,000

C. $211,000

D. $198,000

E. $188,000

$40,000 + $75,000 - $43,000 = $72,000 (Direct materials used in production)

$87,000 + $72,000 + $48,500 + $72,500 - $69,000 = $211,000 (COGM)

$128,000 + $211,000 - $105,000 = $234,000 COGS)

AACSB: Analytic

AICPA FN: Measurement

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

Topic Area: Details of Manufacturing Cost Flows

51. Seiler Company has the following information:

	Work-in-Process	Finished Goods	Materials
Beginning inventory	$300	$400	$ 500
Ending inventory	700	900	1,500
Purchases of materials -------- $ 7,700			
Cost of Goods Sold ----------$15,600			
Manufacturing overhead------- $4,300			

What was the direct labor for the period?

A. $5,500.
B. $5,800.
C. $6,300.
D. $6,800.
E. $7,500.

$500 + $7,700 - $1,500 = $6,700 (Direct materials used in production)
$400 + COGM - $900 = $15,600; COGM = $16,100
$300 + $6,700 + Direct Labor + $4,300 - $700 = $16,100; Direct Labor = $5,500

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

52. Seiler Company has the following information:

	Work-in-Process	Finished Goods	Materials
Beginning inventory	$300	$400	$ 500
Ending inventory	700	900	1,500
Purchases of materials (net)	$7,700		
Cost of Goods Sold	$15,600		
Manufacturing overhead	$4,300		

What was the cost of goods available for sale for the period?

A. $16,800

B. $16,500

C. $16,100

D. $15,100

$400 + COGM - $900 = $15,600; COGM = $16,100

$400 + $16,100 = $16,500 (COGAFS)

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

53. The estimated unit costs for a company to produce and sell a product at a level of 12,000 units per month are as follows:

Cost Item	*Estimated Unit Cost*
Direct material	$32
Direct labor	20
Variable manufacturing overhead	15
Fixed manufacturing overhead	6
Variable selling expenses	3
Fixed selling expenses	4

What are the estimated conversion costs per unit?

A. $35
B. $41
C. $44
D. $48
E. $67

Labor + Overhead = $20 + $15 + $6 = $41

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

54. The estimated unit costs for a company to produce and sell a product at a level of 12,000 units per month are as follows:

Cost Item	*Estimated Unit Cost*
Direct material	$32
Direct labor	20
Variable manufacturing overhead	15
Fixed manufacturing overhead	6
Variable selling expenses	3
Fixed selling expenses	4

What are the estimated prime costs per unit?

A. $73
B. $32
C. $67
D. $52
E. $76

Material + Labor = $32 + $20 = $52

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

55. The estimated unit costs for a company to produce and sell a product at a level of 12,000 units per month are as follows:

Cost Item	*Estimated Unit Cost*
Direct material	$32
Direct labor	20
Variable manufacturing overhead	15
Fixed manufacturing overhead	6
Variable selling expenses	3
Fixed selling expenses	4

What are the estimated variable costs per unit?

A. $70
B. $38
C. $67
D. $52
E. $18

$32 + $20 + $15 + $3 = $70

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

56. Calculate the conversion costs from the following information:

Fixed manufacturing overhead	$2,000
Variable manufacturing overhead	1,000
Direct materials	2,500
Direct labor	1,500

A. $3,000
B. $4,000
C. $4,500
D. $5,000
E. $7,000

$1,500 + $1,000 + $2,000 = $4,500

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Prime Costs and Conversion Costs

57. During the year, a manufacturing company had the following operating results:

Beginning work-in-process inventory	$ 45,000
Beginning finished goods inventory	$190,000
Direct materials used in production	$308,000
Direct labor	$475,000
Manufacturing overhead incurred	$250,000
Ending work-in-process inventory	$ 67,000
Ending finished goods inventory	$ 89,000

What is the cost of goods manufactured for the year?

A. $1,011,000
B. $1,134,000
C. $1,033,000
D. $1,112,000

$45,000 + $308,000 + $475,000 + $250,000 - $67,000 = $1,011,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Cost of Goods Manufactured and Sold

58. During April, the CJG Manufacturing Company had the following operating results:

Sales revenue	$1,500,000
Gross margin	$ 600,000
Ending work-in-process inventory	$ 50,000
Beginning work-in-process inventory	$ 80,000
Ending finished goods inventory	$ 100,000
Beginning finished goods inventory	$ 125,000
Marketing costs	$ 250,000
Administrative costs	$ 150,000

What is the cost of goods manufactured for April?

A. $900,000

B. $875,000

C. $925,000

D. $905,000

$1,500,000 - $600,000 = $900,000 (COGS): $125,000 + COGM - $100,000 = $900,000; COGM = $875,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Cost of Goods Manufactured and Sold

59. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the variable manufacturing cost per unit?

A. $380
B. $430
C. $480
D. $730

$200 + $100 + $80 = $380

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

60. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the total manufacturing cost per unit?

A. $380

B. $430

C. $480

D. $730

$200 + $100 + $80 + ($200,000/2,000) + $480

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

61. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the full cost per unit of making and selling the product?

A. $430

B. $480

C. $530

D. $730

$200 + $100 + $80 + ($200,000/2,000) + $50 + ($400,000/2,000) = $730

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

62. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the contribution margin per unit?

A. $70
B. $320
C. $370
D. $430

$800 - $200 - $100 - $80 - $50 = $370

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

63. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the conversion cost per unit?

A. $100
B. $180
C. $280
D. $380

$100 + $80 + ($200,000/2,000) = $280

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Prime Costs and Conversion Costs

64. Laner Company has the following data for the production and sale of 2,000 units.

Sales price per unit	$ 800 per unit
Fixed costs:	
Marketing and administrative	$400,000 per period
Manufacturing overhead	$200,000 per period
Variable costs:	
Marketing and administrative	$ 50 per unit
Manufacturing overhead	$ 80 per unit
Direct labor	$ 100 per unit
Direct materials	$ 200 per unit

What is the prime cost per unit?

A. $100
B. $280
C. $300
D. $480

$200 + $100 = $300

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Prime Costs and Conversion Costs

65. The following information was collected from the accounting records of the CJG 65 for 3,000 units:

	Per Unit	*Per Period*
Sales price	$350	
Direct Materials	80	
Direct Labor	40	
Overhead	60	$90,000
Marketing	20	
Administrative		60,000

What is CJG's total cost per unit?

A. $180.

B. $200.

C. $210.

D. $250.

$80 + $40 + $60 + ($90,000/3,000) + $20 + ($60,000/3,000) = $250

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

66. The difference between variable costs and fixed costs is (CMA adapted)

A. Unit variable costs fluctuate and unit fixed costs remain constant.
B. Unit variable costs are fixed over the relevant range and unit fixed costs are variable.
C. Total variable costs are constant over the relevant range, while fixed costs change in the long-term.
D. Total variable costs are variable over the relevant range but fixed in the long-term, while fixed costs never change.
E. Unit variable costs change in varying increments, while unit fixed costs change in equal increments.

Unit variable costs are constant, total variable costs fluctuate; unit fixed costs fluctuate, total fixed costs are constant.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Cost Behavior

67. Which one of the following costs is classified as a period cost? (CIA adapted)

A. The wages of the workers on the shipping docks who load completed products onto outgoing trucks.
B. The wages of a worker paid for idle time resulting from a machine breakdown in the molding department.
C. The payments for employee (fringe) benefits paid on behalf of the workers in the manufacturing plant.
D. The wages paid to workers for reworking defective products that failed the quality inspection upon completion.

Shipping to customers is a selling (period) cost.

AACSB: Analytic
AICPA FN: Measurement

Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Nonmanufacturing (Period) Costs

68. The following cost data for the month of May were taken from the records of the Paducah Manufacturing Company: (CIA adapted)

Depreciation on factory equipment	$1,000
Depreciation on sales office	500
Advertising	7,000
Wages of production workers	28,000
Raw materials used	47,000
Sales salaries and commissions	10,000
Factory rent	2,000
Factory insurance	500
Materials handling	1,500
Administrative salaries	2,000

Based upon this information, the manufacturing cost incurred during the month was:

A. $78,500.
B. $80,000.
C. $80,500.
D. $83,000.

$1,000 + $28,000 + $47,000 + $2,000 + $500 + $1,500 = $80,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

69. Sarasota Company, (a merchandising Co.) has the following data pertaining to the year ended December 31, 2006: (CPA adapted)

Purchases	$450,000
Beginning inventory	170,000
Ending inventory	210,000
Freight-in	50,000
Freight-out	75,000

What is the cost of goods sold for the year?

A. $385,000
B. $460,000
C. $485,000
D. $536,000

$170,000 + $450,000 + $50,000 - $210,000 = $460,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

70. The Southeastern Company's manufacturing costs for the third quarter of 2008 were as follows: (CPA adapted)

Direct materials and direct labor	$700,000
Other variable manufacturing costs	100,000
Depreciation of factory building and manufacturing equipment	80,000
Other fixed manufacturing costs	18,000

What amount should be considered product costs for external reporting purposes?

A. $700,000
B. $800,000
C. $880,000
D. $898,000

$700,000 + $100,000 + $80,000 + $18,000 = $898,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

71. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
Machining labor ($12/hour)	18	15
Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

For Makwa's Product L, the costs for direct material, machining labor, and assembly labor represent

A. Conversion costs.
B. Period costs.
C. Prime costs.
D. Common costs.
E. Fixed costs.

Materials + Labor + Prime Costs

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Prime Costs and Conversion Costs

72. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
Machining labor ($12/hour)	18	15
Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

The difference between the $100 estimated selling price for Product W and its total cost of $88 represents

A. Contribution margin per unit.
B. Gross margin per unit.
C. Variable cost per unit.
D. Operating profit per unit.
E. Net income per unit.

This statement is a definition of gross margin.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Gross Margin versus Contribution Margin Income Statements

73. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
Machining labor ($12/hour)	18	15
Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

The total overhead cost of $27 for Makwa's Product W is a

A. Sunk cost.
B. Opportunity cost.
C. Variable cost.
D. Mixed cost.
E. Fixed cost.

Is a mixed cost as it includes both fixed and variable costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Cost Behavior

74. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
Machining labor ($12/hour)	18	15
Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

Research and development costs for Makwa's two new products are

A. Prime costs.
B. Conversion costs.
C. Opportunity costs.
D. Sunk costs.
E. Avoidable costs.

Sunk costs are costs that have already been incurred.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: What Is a Cost?

75. Makwa Industries has developed two new products but has only enough plant capacity to introduce one product during the current year. The following data will assist management in deciding which product should be selected.

Makwa's fixed overhead includes rent and utilities, equipment depreciation, and supervisory salaries. Selling and administrative expenses are not allocated to individual products.

	Product L	Product W
Direct materials	$ 44	$ 36
Machining labor ($12/hour)	18	15
Assembly labor ($10/hour)	30	10
Variable overhead ($8/hour)	36	18
Fixed overhead ($4/hour)	18	9
Total Manufacturing Cost	$ 146	$ 88
Estimated selling price per unit	$ 170	$ 100
Actual research and development costs	$240,000	$175,000
Estimated advertising costs	$500,000	$350,000

The advertising costs for the product selected by Makwa will be

A. Prime costs.
B. Conversion costs.
C. Period costs.
D. Opportunity costs.
E. Product costs.

Advertising is a selling costs and considered a period cost since it's influence cannot be tied to changes in volume.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Nonmanufacturing (Period) Costs

76. An opportunity cost is

A. a cost that is charged against revenue in an accounting period.
B. the foregone benefit from the best alternative course of action.
C. the excess of operating revenues over operating costs.
D. the cost assigned to the products sold during the period.
E. the cost assigned to the products produced during the period.

This is a definition of opportunity cost which is not attached to products.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

77. The process of assigning indirect costs to products, services, people, business units, etc., is

A. cost object.
B. cost pool.
C. cost allocation.
D. opportunity cost.

This statement is a definition of allocation.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost Allocation

78. A _____ is any end to which a cost is assigned.

A. cost object
B. cost pool
C. cost allocation
D. opportunity cost

This statement is a definition of a cost object.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Understand
Difficulty: 1 Easy
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost Allocation

79. A cost allocation rule is the method or process used to assign the costs in the _____ to the _____.

A. cost allocation; cost pool
B. cost pool; opportunity cost
C. cost object; cost pool
D. cost pool; cost object

This statement is a definition of a cost allocation rule.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Understand
Difficulty: 1 Easy
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost Allocation

80. Under full absorption costing, which of the following are included in product costs?

A. Only direct materials and direct labor.
B. Only variable manufacturing costs.
C. Only conversion costs.
D. All fixed and variable manufacturing costs.

Full absorption includes all fixed and variable manufacturing costs.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

81. Waupun Company has the following unit costs:

Variable manufacturing overhead	$13
Direct materials	12
Direct labor	17
Fixed manufacturing overhead	10
Fixed marketing and administrative	8

What cost per unit would be used for product costing under full absorption costing?

A. $29
B. $42
C. $52
D. $60

$13 + $12 + $17 + $10 = $52

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium

Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

82. Waupun Company has the following unit costs:

Variable manufacturing overhead	$13
Direct materials	12
Direct labor	17
Fixed manufacturing overhead	10
Fixed marketing and administrative	8

What cost per unit would be used for product costing under variable costing?

A. $29
B. $42
C. $52
D. $60

$13 + $12 + $17 = $42

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

83. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the gross margin?

A. $170,000
B. $240,000
C. $290,000
D. $360,000

$100 - $25 - $20 - $19 - $12 = $24; $24 x 10,000 = $240,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

84. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the contribution margin?

A. $170,000
B. $240,000
C. $290,000
D. $360,000

$100 - $25 - $20 - $19 - $7 = $29; $29 x 10,000 = $290,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

85. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the operating profit under full absorption costing?

A. $170,000
B. $240,000
C. $290,000
D. $360,000

$100 - $25 - $20 - $19 - $12 - $7 = $17; $17 x 10,000 = $170,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

86. Cheboygan Company has the following unit costs:

Variable manufacturing overhead	$25
Direct materials	20
Direct labor	19
Fixed manufacturing overhead	12
Variable marketing and administrative	7

Cheboygan produced and sold 10,000 units. If the product sells for $100, what is the operating profit using a contribution margin income statement?

A. $170,000
B. $240,000
C. $290,000
D. $360,000

$100 - $25 - $20 - $19 - $12 - $7 = $17; $17 x 10,000 = $170,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

87. Which of the following is **not** a name for indirect resources?

A. Overhead costs
B. Burden
C. Direct costs
D. Common costs

All options are names for indirect resources except direct costs.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
Blooms: Remember

Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

88. Which of the following should be considered part of a manufacturing company's direct labor cost?

A. Factory supervisor's salary
B. Forklift operator's hourly wages
C. Employer-paid health insurance on factory assemblers' wages
D. Cost of idle time

This option is not considered a part of a manufacturing company's direct labor cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

89.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The variable cost of goods sold is:

A. $110,000

B. $120,000

C. $144,000

D. $40,000

($96,000 + $48,000)/4800 = $30 per unit x 4,000 = $120,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

90.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The absorption cost of goods sold is:

A. $246,667
B. $120,000
C. $180,000
D. $40,000

($96,000 + $48,000 + $72,000)/4800 = $45 per unit x 4,000 = $180,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

91.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The variable operating income is:

A. $120,000
B. $140,000
C. $104,000
D. $128,000

$400,000 - $120,000 - $72,000 - $80,000 = $128,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

92.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The absorption operating income is:

A. $120,000

B. $140,000

C. $128,000

D. $112,000

E. $45 per unit x 4,000 units sold

$400,000 - $180,000 - $80,000 = $140,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

93.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The variable ending inventory is:

A. $36,000
B. $8,000
C. $40,000
D. $24,000

($96,000 + $48,000)/4,800 = $30 per unit; $30 per unit X 800 units = $24,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

94.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The absorption ending inventory is:

A. $40,000
B. $24,000
C. $36,000
D. $8,000

($96,000 + $48,000 + $72,000)/4,800 = $45 per unit; $45 per unit X 800 units = $36,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

95.

Beginning inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	$400,000
Material cost (unit level or variable)	$ 96,000
Variable conversion cost used (Committed)	$ 48,000
Facility-level or fixed manufacturing cost	$ 72,000
Indirect operating costs (fixed)	$ 80,000

The difference between the variable ending inventory cost and the absorption ending inventory cost is:

A. 800 units times $15 per unit indirect manufacturing cost.
B. 800 units times $10 per unit material cost.
C. 800 units times $20 per unit variable conversion cost plus $15 per unit indirect manufacturing cost.
D. 800 units times $20 per unit variable conversion cost plus $15 per unit indirect manufacturing cost plus $16.67 per unit indirect operating costs.

$15 per unit indirect manufacturing costs x 800 units in ending inventory.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 3 Hard
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

96. Absorption costing measures contribution to profit as:

A. Sales less unit-level costs spent of goods sold.
B. Sales less variable costs of goods sold.
C. Sales less absorption cost of goods sold.
D. Sales less all costs including operating expenses.

Sales less absorption cost of goods sold.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-06 Identify the components of a product's costs.
Topic Area: Components of Product Costs

97. The corporate controller's salary would be considered a(n):

A. manufacturing cost.
B. product cost.
C. administrative cost.
D. selling expense.

The corporate controller's salary is an administrative cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Presentation of Costs in Financial Statements

98. The costs of direct materials are classified as:

	Conversion cost	Manufacturing cost	Prime cost
A)	Yes	Yes	Yes
B)	No	No	No
C)	Yes	Yes	No
D)	No	Yes	Yes

A. Choice A
B. Choice B
C. Choice C
D. Choice D

Direct materials are a manufacturing cost and a prime cost; they are not a conversion cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

99. Manufacturing overhead:

A. can be either a variable cost or a fixed cost.
B. includes the costs of shipping finished goods to customers.
C. includes all factory labor costs.
D. includes all fixed costs.

Manufacturing overhead can be either a fixed or a variable cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.

Topic Area: Cost Behavior

100. The three basic elements of manufacturing cost are direct materials, direct labor, and:

A. cost of goods manufactured.
B. cost of goods sold.
C. work in process.
D. manufacturing overhead.

The three elements of cost are direct material, direct labor and manufacturing overhead.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

101. Prime cost consists of direct materials combined with:

A. direct labor.
B. manufacturing overhead.
C. indirect materials.
D. cost of goods manufactured.

Direct materials and direct labor = Prime costs.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Prime Costs and Conversion Costs

102. Which terms below correctly describe the cost of the black paint used to paint the dots on a pair of dice?

	Variable Cost	Administrative Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Choice A
B. Choice B
C. Choice C
D. Choice D

The paint is a variable manufacturing cost, not an administrative cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Cost Behavior

103. The cost of fire insurance for a manufacturing plant is generally considered to be a:

A. product cost.
B. period cost.
C. variable cost.
D. all of these.

Fire insurance for the manufacturing plant is part of product cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Apply

Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

104. An example of a period cost is:

A. fire insurance on a factory building.
B. salary of a factory supervisor.
C. direct materials.
D. rent on a headquarters building.

The first three options are all product costs whereas rent on the headquarters building is a period cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

105. Transportation costs incurred by a manufacturing company to ship its product to its customers would be classified as which of the following?

A. Product cost
B. Manufacturing overhead
C. Period cost
D. Administrative cost

Transportation costs incurred to ship a company's product are a period cost.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.

Topic Area: Manufacturing Companies

106. Micro Computer Company has set up a toll-free telephone line for customer inquiries regarding computer hardware produced by the company. The cost of this toll-free line would be classified as which of the following?

A. Product cost
B. Manufacturing overhead
C. Direct labor
D. Period cost

The cost of the toll-free line is a period cost as it belongs in the selling department.

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

Essay Questions

107. The following information is available for the Netland Consulting Company for the fiscal year ended December 31.

Gross margin	$170,000
Operating profit	$ 65,500
Revenues	$809,000
Income tax rate	34%

Required:

(a) Compute the cost of services sold.
(b) Compute the total marketing and administrative costs.
(c) Compute net income.

(a) $809,000 - x = $170,000; x = $639,000
(b) $170,000 - x = $65,500; x = $104,500
(c) $65,500 - [(.34($65,500)] = x; x = $43,230

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Service Organizations

108. The following information is available for the Ridgedale Manufacturing Company for the fiscal year ended December 31.

Revenues	$900,000
Gross margin	$315,000
Operating profit	85,000
Income tax rate	32%

Required:

(a) Compute the cost of goods sold.
(b) Compute the total marketing and administrative costs.
(c) Compute net income.

(a) $900,000 - x = $315,000; x = $585,000
(b) $315,000 - x = $85,000; x = $230,000
(c) $85,000 - (.32 x $85,000) = $57,800

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

109. The following information is available for the Roberts Retail Store for the fiscal year ended December 31.

Ending inventory	$100,100
Transportation-in costs	$ 8,900
Purchase discounts	$ 15,000
Beginning inventory	$ 79,000
Merchandise cost	$450,000
Purchase returns and allowances	$ 6,200
Sales revenue	$800,000
Sales discounts	$ 12,500

Required:

(a) Prepare a cost of goods sold statement for Roberts Retail Store.
(b) Compute the gross margin for the fiscal year ended December 31.

(a)

Beginning inventory		$ 79,000
Cost of goods purchased:		
Merchandise (cost)	$450,000	
Purchase returns	(6,200)	
Purchase discounts	(15,000)	
Transportation-in costs	8,900	
Total cost of goods purchased		437,700
Cost of goods available for sale		516,700
Ending inventory		(100,100)
Cost of goods sold		$416,600

(b)

Sales revenue (gross)	$800,000	
Less sales discounts	(12,500)	
Sales revenues (net)		$787,500
Cost of goods sold		416,600
Gross margin		$370,900

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-02 Explain how costs are presented in financial statements.

110. **Required:**

For each of the following costs incurred in a manufacturing company, indicate whether the costs are (a) fixed or variable and (b) product costs or period costs.

	Cost Item	Fixed	Variable	Product	Period
0	Annual audit and tax return fees	X			X
1	Costs (other than food) of running the cafeteria for factory personnel				
2	Direct materials used				
3	Clerical staff in administrative offices				
4	Depreciation of factory machinery*				
5	Property taxes on the factory				
6	Insurance premiums on delivery vans				
7	Factory custodian pay				
8	Sales commissions				
9	Rent paid for corporate jet				
10	Transportation-in costs for indirect material				

*Straight-line depreciation method used.

	Cost Item	Fixed	Variable	Product	Period
1	Costs (other than food) of running the cafeteria for factory personnel	X		X	
2	Direct materials used		X	X	
3	Clerical staff in administrative offices	X			X
4	Depreciation of factory machinery*	X		X	
5	Property taxes on the factory	X		X	
6	Insurance premiums on delivery vans	X			X
7	Factory custodian pay	X		X	
8	Sales commissions		X		X
9	Rent paid for corporate jet	X			X
10	Transportation-in costs for indirect material		X	X	

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Cost Behavior

111. The Plastechnics Company began operations several years ago. The company purchased a building and, since only half of the space was needed for operations, the remaining space was rented to another firm for rental revenue of $20,000 per year. The success of Plastechnics Company's product has resulted in the company needing more space. The renter's lease will expire next month and Plastechnics will not renew the lease in order to use the space to expand operations and meet demand.

The company's product requires direct materials that cost $25 per unit. The company employs a production supervisor whose salary is $2,000 per month. Production line workers are paid $15 per hour to manufacture and assemble the product. The company rents the equipment needed to produce the product at a rental cost of $1,500 per month. Additional equipment will be needed as production is expanded and the monthly rental charge for this equipment will be $900 per month. The building is depreciated on a straight-line basis at $9,000 per year.

The company spends $40,000 per year to market the product. Shipping costs for each unit are $20 per unit. The cost of electricity and other utilities used for product is $2 per unit. The company plans to liquidate several investments in order to expand production. These investments currently earn a return of $8,000 per year.

Required:

Complete the answer sheet that follows by placing an "X" under each heading that identifies the cost involved. The "X's" can be placed under *more than one heading* for a single cost, e.g., a cost might be a variable cost, and an overhead cost.

	Name of cost	Variable cost	Fixed cost	Direct materials	Direct labor	Mfg overhead	Period cost	Opportunity cost
1	Amount that can be earned renting building							
2	Cost of direct materials							
3	Salary of production supervisor							
4	Cost of direct labor							
5	Equipment rental cost							
6	Depreciation on building							
7	Marketing costs							
8	Shipping costs							
9	Electrical costs							
10	Foregone investment income							

	Name of cost	Variable cost	Fixed cost	Direct materials	Direct labor	Mfg overhead	Period cost	Opportunity cost
1	Amount that can be earned renting building							X
2	Cost of direct materials	X		X				
3	Salary of production supervisor		X			X		
4	Cost of direct labor	X			X			
5	Equipment rental cost		X			X		
6	Depreciation on building		X			X		
7	Marketing costs		X				X	
8	Shipping costs	X					X	
9	Electrical costs	X				X		
10	Foregone investment income							X

AACSB: Analytic

AICPA FN: Measurement

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.

Topic Area: Details of Manufacturing Cost Flows

112. The following cost and inventory data were taken from the records of the Beca Company for the year:

Costs incurred:

Depreciation, factory equipment	$30,000
Depreciation, office equipment	7,000
Supplies, factory	1,500
Maintenance, factory equipment	20,000
Utilities, factory	8,000
Sales commissions	30,000
Indirect labor	54,500
Rent, factory building	70,000
Purchases of direct materials (net)	124,000
Direct labor	80,000
Advertising expense	90,000

Inventories:

	January 1	December31
Direct materials	$9,000	$11,000
Work in process	6,000	21,000
Finished goods	69,000	24,000

Required:

(a) Compute the cost of goods manufactured.

(b) Prepare a cost of goods sold statement.

(a)

Beginning work-in-process inventory			$ 6,000
Manufacturing costs during the year:			
Direct materials			
Beginning inventory	$ 9,000		
Purchases (net)	124,000		
Direct materials available	133,000		
Ending inventory	(11,000)		
Direct materials put into production		122,000	
Direct labor		80,000	
Manufacturing overhead			
Depreciation	$ 30,000		
Supplies	1,500		
Maintenance	20,000		
Utilities	8,000		
Indirect labor	54,500		
Rent	70,000		
Total manufacturing overhead		184,000	
Total manufacturing costs incurred			386,000
Ending work-in-process inventory			(21,000)
Cost of goods manufactured			$371,000

(b)

Beginning finished goods inventory	$ 69,000
Cost of goods manufactured	371,000
Cost of goods available for sale	440,000
Ending finished goods inventory	- 24,000
Cost of goods sold	$416,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

113. The Matter Manufacturing Company provided you with the following information for the fiscal year ended December 31.

Work-in-process inventory, 12/31	$ 57,900
Finished goods inventory, 1/1	307,400
Direct labor costs incurred	1,004,300
Manufacturing overhead costs	2,693,400
Direct materials inventory, 1/1	250,800
Finished goods inventory, 12/31	511,000
Direct materials purchased	1,750,200
Work-in-process inventory, 1/1	101,000
Direct materials inventory, 12/31	169,400

Required:

(a) Compute the total manufacturing costs incurred during the year.
(b) Compute the total work-in-process during the year.
(c) Compute the cost of goods manufactured during the year.
(d) Compute the cost of goods sold during the year.
(e) Compute the total prime costs for the year.
(f) Compute the total conversion costs for the year.

(a) ($250,800 + 1,750,200 - 169,400) + 1,004,300 + 2,693,400 = x; x = $5,529,300
(b) $101,000 + 5,529,300 = x; x = $5,630,300
(c) $101,000 + 5,529,300 - 57,900 = x; x = $5,572,400
(d) $307,400 + 5,572,400 - 511,000 = x; x = $5,368,800
(e) ($250,800 + 1,750,200 - 169,400) + 1,004,300 = x; x = $2,835,900
(f) $1,004,300 + 2,693,400 = x; x = $3,697,700

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Details of Manufacturing Cost Flows

114. The cost accountant for the Larsen Manufacturing Company has provided you with the following information for the month of July:

	Variable costs Per unit	Total Fixed Costs
Direct labor	$27.50	
Direct materials	84.75	
Manufacturing overhead	14.25	$120,000
Marketing costs	5.30	50,000
Administrative costs	2.90	75,000

Required:

Compute the following *per unit* items, assuming the company produced and sold 5,000 units at a price of $210.00 per unit.

(a) Total variable cost
(b) Variable inventoriable cost
(c) Full absorption cost
(d) Full cost
(e) Contribution margin
(f) Gross margin
(g) Profit margin

(a) $84.75 + 27.50 + 14.25 + 5.30 + 2.90 = x; x = $134.70
(b) $84.75 + 27.50 + 14.25 = x; x = $126.50
(c) $84.75 + 27.50 + 14.25 + ($120,000/5,000) = x; x = $150.50
(d) $84.75 + 27.50 + 14.25 + 5.30 + 2.90 + [(120,000 + 50,000 + 75,000)/5,000] = x; x = $183.70
(e) $210.00 - (84.75 + 27.50 + 14.25 + 5.30 + 2.90) = x; x = $75.30
(f) $210.00 - [84.75 + 27.50 + 14.25 + (120,000/5,000)] = x; x = $59.50
(g) $210.00 - $84.75 + 27.50 + 14.25 + 5.30 + 2.90 + [(120,000 + 50,000 + 75,000)/5,000] = x; x = $26.30

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Details of Manufacturing Cost Flows

115. The cost accountant for the Larsen Manufacturing Company has provided you with the following information for the month of July:

	Variable costs Per unit	Total Fixed Costs
Direct labor	$27.50	
Direct materials	84.75	
Manufacturing overhead	14.25	$120,000
Marketing costs	5.30	50,000
Administrative costs	2.90	75,000
Selling price	210.00	

Required:

Assuming the company produced and sold 5,000 units, and there were no units in inventory on July 1, prepare the following income statements for the month of July:

(a) Contribution margin income statement.
(b) Gross margin income statement.

(a)		
Revenues		$1,050,000
Variable costs:		
Direct materials	$423,750	
Direct labor	137,500	
Manufacturing overhead	71,250	
Marketing costs	26,500	
Administrative costs	14,500	
Total variable costs		673,500
Contribution margin		376,500
Fixed costs:		
Manufacturing overhead	120,000	
Marketing costs	50,000	
Administrative costs	75,000	
Total fixed costs		245,000
Operating profits		$ 131,500

(b)

Revenues		$1,050,000
Cost of goods sold:		
Direct materials	$423,750	
Direct labor	137,500	
Mfg overhead	191,250	
Cost of goods sold		752,500
Gross margin		297,500
Expenses:		
Marketing costs	76,500	
Administrative costs	89,500	
Total expenses		166,000
Operating profits		$ 131,500

AACSB: Analytic

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Topic Area: How to Make Cost Information More Useful for Managers

116. Schuh Enterprises manufactures baseballs and identified the following costs associated with their manufacturing activity (V = Variable; F = Fixed). The following information is available for the month of June when 25,000 baseballs were produced, but only 23,500 baseballs were sold.

Power to run plant equipment (V)	$ 25,000
Other selling costs (V)	$149,150
Indirect labor (F)	$ 50,000
Property taxes on building (F)	$ 12,500
Marketing costs (V)	$ 30,000
Factory Supervisor salaries (F)	$125,000
Direct materials used (V)	$500,000
Depreciation on plant equipment (F)	$ 68,000
Shipping costs to customer (V)	$ 48,800
Indirect material and supplies (V)	$ 37,500
Direct labor (V)	$250,000
Administrative salaries (F)	$300,000
Insurance on factory building (F)	$ 62,500
Utilities, factory (V)	$ 50,000
General office costs (F)	$ 48,000

Required:

Compute the following amounts for July, assuming 30,000 baseballs were produced and sold: (Assume normal production ranges from 15,000 to 40,000 baseballs)

(a) Total manufacturing costs.
(b) Total conversion costs.
(c) Period costs per unit.
(d) Full costs per unit.

(a) [($500,000 + 250,000 + 25,000 + 37,500 + 50,000)/25,000] = Variable costs per unit
Variable cost per unit = $34.50
($34.50 × 30,000) + (50,000 + 12,500 + 125,000 + 68,000 + 62,500) = Total mfg. costs
Total manufacturing costs = $1,035,000 + 318,000 = $1,353,000
(b) [($250,000 + 25,000 + 37,500 + 50,000)/25,000] = Conversion costs per unit
Conversion costs per unit = $14.50
(14.50 × 30,000) + (50,000 + 12,500 + 125,000 + 68,000 + 62,500) = Total costs
Total conversion costs = $435,000 + 318,000 = $753,000

(c) ($149,150 + 30,000 + 48,800)/23,500 = Period costs per unit

Period costs per unit = $9.70

($9.70 × 30,000) + (300,000 + 48,000) = Total period costs

Total period costs = $639,000

$639,000/30,000 = Period costs per unit

Period costs per unit = $21.30

(d) ($1,353,000/30,000) + $21.30 = Full costs per unit

Full costs per unit = $66.40

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 3 Hard
Learning Objective: 02-03 Explain the process of cost allocation.
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Details of Manufacturing Cost Flows

117. Each column below is independent and for a different company. Use the data given, which refer to one year for each example, to find the unknown account balances.

	Company		
	Southeast	Central	Northwest
Direct materials inventory, January 1	(a)	$3,920	$16,640
Direct materials inventory, December 31	$4,850	3,248	14,664
Work-in-process inventory, January 1	2,700	7,526	85,696
Work-in-process inventory, December 31	3,800	3,472	79,800
Finished goods inventory, January 1	1,900	(d)	17,888
Finished goods inventory, December 31	300	4,928	29,536
Purchases of direct materials	16,100	13,440	66,768
Cost of goods manufactured during this year	(b)	30,486	326,320
Total manufacturing costs	55,550	26,432	320,424
Cost of goods sold	56,050	30,464	314,673
Gross margin	(c)	18,368	666,931
Direct labor	26,450	4,256	129,688
Direct materials used	15,300	(e)	68,744
Manufacturing overhead	13,800	8,064	(g)
Sales revenue	103,300	(f)	981,604

(a) ($x + 16,100 - 4,850) = $15,300; x = $4,050

(b) $2,700 + 55,550 - 3,800 = x; x = $54,450

(c) $103,300 - 56,050 = x; x = $47,250

(d) $x + 30,486 - 4,928 = 30,464; x = $4,906

(e) $3,920 + 13,440 - 3,248 = x; x = $14,112

(f) $x - 30,464 = 18,368; x = $48,832

(g) $68,744 + 129,688 + x = 320,424; x = $121,992

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

118. The following data appeared in Hunter Company's records on December 31:

Direct materials inventory, December 31	$ 535,500
Direct materials purchased during the year	2,268,000
Finished goods inventory, December 31	567,000
Indirect labor	201,600
Direct labor	2,520,000
Factory heat, light, and power	234,360
Factory depreciation	393,900
Administrative salaries	323,820
Miscellaneous factory cost	200,970
Marketing costs	233,100
Other administrative costs	113,400
Maintenance on factory equipment	76,230
Insurance on factory equipment	119,700
Distribution costs	10,080
Taxes on manufacturing property	82,530
Legal fees on customer complaint	51,660
Direct materials put into production	2,407,230
Work-in-process inventory, December 31	154,980

On January 1 the Finished Goods Inventory account had a balance of $280,000, and the Work-in-process Inventory account had a balance of $90,650. Sales revenue for the year was $6,687,500.

Required:

Prepare a cost of goods sold statement and an income statement.

Panel A:

Beginning Work-in-process inventory			$ 90,650
Manufacturing costs during the year:			
Direct materials:			
Beginning inventory (not given)	$674,730		
Purchases (net)	2,268,000		
Direct materials available	2,942,730		
Ending inventory	- 535,500		
Direct materials put into production		2,407,230	
Direct labor		2,520,000	
Manufacturing overhead:			
Depreciation	$396,900		
Insurance	119,700		
Maintenance	76,230		
Plant heat, light, and power	234,360		
Indirect labor	201,600		
Property taxes	82,530		
Miscellaneous	200,970		
Total manufacturing overhead		1,312,290	
Total manufacturing costs incurred			6,239,520
Total work in process during the year			6,330,170
Ending Work-in-process inventory			- 154,980
Cost of goods manufactured			$6,175,190

Panel B:

Beginning Finished goods inventory	$ 280,000
Cost of goods manufactured	6,175,190
Cost of goods available for sale	6,455,190
Ending Finished goods inventory	- 567,000
Cost of goods sold	$5,888,190

Panel C:

Revenues		$6,687,500
Cost of goods sold		5,888,190
Gross margin		799,310

Expenses:

Marketing costs [$233,100 + 10,080]	243,180	
Administrative costs [$113,400 + 323,820 + 51,660]	488,880	
Total expenses		732,060
Operating profit		$ 67,250

AACSB: Analytic

AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Presentation of Costs in Financial Statements

119. The information below has been taken from the cost records of Scottso Corp. for the past year:

Raw materials used in production		$326
Total manufacturing costs charged to production during the year (includes $135 of factory overhead)		686
Cost of goods available for sale		826
Selling & administrative expenses		25
Inventories:	Beginning	Ending
Direct materials	75	85
Work in process	80	30
Finished goods	90	110

Required:

a. Calculate the cost of direct materials purchased during the year.
b. Calculate the direct labor costs charged to production during the year.
c. Calculate the cost of goods manufactured during the year.
d. Calculate the cost of goods sold for the year.

a. $75 + x - 85 = 326; x = $336
b. $326 + x + 135 = $686; x = $225
c. $80 + 686 - 30 = $736
d. $826 - 110 = $716

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

120. Information from the records of the Garver Production Company for the month of January is as follows:

Purchases of direct materials	$18,000
Indirect labor	5,000
Direct labor	10,400
Depreciation on factory machinery	3,000
Sales	55,300
Selling and administrative expenses	6,300
Rent on factory building	7,000

Inventories	January 1	January 31
Direct materials	$8,000	$8,700
Work-in-process	2,100	3,200
Finished goods	5,000	5,700

Required:

a. Prepare a statement of cost of goods manufactured for the month of January.
b. Prepare an income statement for the month of January.

a.

Beginning direct materials	$ 8,000	
Purchases of direct materials	18,000	
Less ending direct materials	- 8,700	
Direct materials used		17,300
Direct labor		10,400

Overhead:

Indirect labor	5,000	
Depreciation on machinery	3,000	
Rent on building	7,000	
Total overhead		15,000
Costs added during month		42,700
Beginning work in process		2,100
Less ending work in process		- 3,200
Cost of goods manufactured		41,600

b.

Sales		$ 55,300
Cost of goods sold:		
Beginning Finished goods	5,000	
Cost of goods manufactured	41,600	
Less ending finished goods	- 5,700	
Cost of goods sold		40,900
Gross margin		14,400
Selling & administrative expenses		6,300
Operating profit		8,100

AACSB: Analytic

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

Topic Area: Presentation of Costs in Financial Statements

121. The information below has been taken from the cost records of Benno Corp. for the past year:

Raw materials used in production		$572
Total manufacturing costs charged to production during the year (includes $255 of factory overhead)		1,095
Cost of goods available for sale		1,415
Selling & administrative expenses		255
Inventories:	Beginning	Ending
Direct materials	175	155
Work in process	220	190
Finished goods	290	310

Required:

a. Calculate the cost of direct materials purchased during the year.

b. Calculate the direct labor costs charged to production during the year.

c. Calculate the cost of goods manufactured during the year.

d. Calculate the cost of goods sold for the year.

a. $175 + x - 155 = 572; x = $552

b. $572 + x + 255 = $1,095; x = $268

c. $220 + 1,095 - 190 = $1,125

d. $1,415 - 310 = $1,105

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

122. Information from the records of the Seiler Production Company for the month of July is as follows:

July is as follows:		
Purchases of direct materials		$24,000
Indirect labor		6,500
Direct labor		13,200
Depreciation on factory machinery		3,600
Sales		75,300
Selling and administrative expenses		8,900
Rent on factory building		8,400
Inventories	January 1	January 31
Direct materials	$8,000	$6,700
Work-in-process	1,100	1,600
Finished goods	9,000	6,800

Required:

a. Prepare a statement of cost of goods manufactured for the month of July.
b. Prepare an income statement for the month of July.

a.

Beginning direct materials	$ 8,000	
Purchases of direct materials	24,000	
Less ending direct materials	- 6,700	
Direct materials used		25,300
Direct labor		13,200
Overhead:		
Indirect labor	6,500	
Depreciation on machinery	3,600	
Rent on building	8,400	
Total overhead		18,500
Costs added during month		57,000
Beginning work in process		1,100
Less ending work in process		- 1,600
Cost of goods manufactured		56,500

b.

Sales		$ 75,300
Cost of goods sold:		
Beginning Finished goods	9,000	
Cost of goods manufactured	56,500	
Less ending finished goods	- 6,800	
Cost of goods sold		58,700
Gross margin		16,600
Selling & administrative expenses		8,900
Operating profit		7,700

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Presentation of Costs in Financial Statements

123. The Moundsview Company provided you with the following information for the fiscal year ended December 31.

Work-in-process inventory, 12/31	$ 115,800
Finished goods inventory, 1/1	614,800
Direct labor costs incurred	2,008,600
Manufacturing overhead costs	5,368,800
Direct materials inventory, 1/1	501,600
Finished goods inventory, 12/31	1,022,000
Direct materials purchased	3,500,400
Work-in-process inventory, 1/1	202,000
Direct materials inventory, 12/31	338,800

Required:

(a) Compute the total manufacturing costs incurred during the year.
(b) Compute the total work-in-process during the year.
(c) Compute the cost of goods manufactured during the year.
(d) Compute the cost of goods sold during the year.
(e) Compute the total prime costs for the year.
(f) Compute the total conversion costs for the year.

(a) [$501,600 + 3,500,400 - 338,800] + 2,008,600 + 5,368,800 = x; x = $11,040,600
(b) $202,000 + 11,040,600 = x; x = $11,242,600
(c) $202,000 + 11,040,600 - 115,800 = x; x = $11,126,800
(d) $614,800 + 11,126,800 - 1,022,000 = x; x = $10,719,600
(e) [$501,600 + 3,500,400 - 338,800] + 2,008,600 = x: x = $5,671,800
(f) $2,008,600 + 5,368,800 = x; x = $7,377,400

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Presentation of Costs in Financial Statements

124. The Boyceville Machining Company provided you with the following information for the fiscal year ended December 31.

Work-in-process inventory, 12/31	$ 28,950
Finished goods inventory, 1/1	153,700
Direct labor costs incurred	502,150
Manufacturing overhead costs	1,364,700
Direct materials inventory, 1/1	125,400
Finished goods inventory, 12/31	255,500
Direct materials purchased	875,100
Work-in-process inventory, 1/1	50,500
Direct materials inventory, 12/31	84,700

Required:

(a) Compute the total manufacturing costs incurred during the year.
(b) Compute the total work-in-process during the year.
(c) Compute the cost of goods manufactured during the year.
(d) Compute the cost of goods sold during the year.

(a) [($125,400 + 875,100 - 84,700) + 502,150 + 1,364,700] = x; x = $2,782,650
(b) $50,500 + 2,782,650 = x; x = $2,833,150
(c) $50,500 + 2,782,650 - 28,950 = x; x = $2,804,200
(d) $153,700 + 2,804,200 - 255,500 = x; x = $2,702,400

AACSB: Analytic
AICPA FN: Measurement
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Presentation of Costs in Financial Statements

125. Finkler Retail has collected the following information for May:

Sales revenue	$ 1,650,000
Store rent	84,000
Utilities	57,200
Sales commissions	247,500
Merchandise inventory, 5/1	118,200
Merchandise inventory, 5/1	118,200
Freight-in	54,600
Administrative costs	115,100
Merchandise purchases	1,091,000

Required: Prepare an income statement for the month of May

Sales revenue		$ 1,650,000
Merchandise inv 5/1	118,200	
Purchases	1,091,000	
Freight-in	54,600	
Goods available for sale	1,263.800	
Less merchandise inv 5/31	- 124,600	
Cost of goods sold		1,139,200
Gross margin		510,800

Expenses:

Sales commissions	247,500	
Store rent	84,000	
Utilities	57,200	
Administrative	115,100	
Total expenses		503,800
Operating profit		7,000

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Presentation of Costs in Financial Statements

126. Fowler Retail has collected the following information for August:

Sales revenue	$ 1,155,000
Store rent	58,800
Utilities	40,400
Sales commissions	173,300
Merchandise inventory, 8/1	87,220
Merchandise inventory, 8/31	82,740
Freight-in	30,300
Administrative costs	80,600
Merchandise purchases	763,700

Required: Prepare an income statement for the month of August.

Sales revenue		$ 1,155,000
Merchandise inv 8/1	87,220	
Purchases	763,700	
Freight-in	30,300	
Goods available for sale	881,220	
Less merchandise inv 5/31	- 82,740	
Cost of goods sold		798,480
Gross margin		356,520

Expenses:

Sales commissions	173,300	
Store rent	58,800	
Utilities	40,400	
Administrative	80,600	
Total expenses		353,100
Operating profit		3,420

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Presentation of Costs in Financial Statements

127. Sid Freeman has developed a new electronic device that he has decided to produce and market. The production facility will be in a nearby industrial park which Sid will rent for $4,000 per month. Utilities will cost about $500 per month. He will use his personal computer, which he purchased for $2,000 last year, to monitor the production process. The computer will become obsolete before it wears out from use. The computer will be depreciated at the rate of $1,000 per year. He will rent production equipment at a monthly cost of $8,000. Sid estimates the material cost per finished unit of product to be $50, and the labor cost to be $10. He will hire workers, and spend his time promoting the product. To do this he will quit his job which pays $4,500 per month. Advertising will cost $2,000 per month. Sid will not draw a salary from the new company until it gets well established.

Required:

Complete the chart below by placing an "X" under each heading that helps to identify the cost involved. There can be "Xs" placed under more than one heading for a single cost; e.g., a cost might be a sunk cost, an overhead cost, and a product cost. There would be an "X" placed under each of these headings opposite the cost.

					Product Cost				
	Oppor-tunity Cost	Sunk Cost	Variable Cost	Fixed Cost	Direct Materials	Direct Labor	Manufac-turing Overhead	Selling Cost	Differ-ential Cost
Facility rent									
Utilities									
Personal computer depreciation									
Equipment rent									
Material cost									
Labor cost									
Present salary									
Advertising									

*Between the alternatives of producing and not producing the device.

					Product Cost				
	Opportunity Cost	Sunk Cost	Variable Cost	Fixed Cost	Direct Materials	Direct Labor	Manufacturing Overhead	Selling Cost	Differential Cost
Facility rent				X			X		X
Utilities				X			X		X
Personal computer depreciation		X		X			X		
Equipment rent				X			X		X
Material cost			X		X				X
Labor cost			X			X			X
Present salary	X								X
Advertising				X				X	

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Decision Making
Blooms: Apply
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Cost Behavior

128. A manufacturing company, has provided the following data for the month of May:

Inventories:	Beginning	Ending
Raw materials.....	$36,000	$24,000
Finished goods	$57,000	$28,000

Raw materials purchased during May totaled $69,000 and the cost of goods manufactured totaled $146,000.

Required:

a. What was the cost of raw materials used in production during May? Show your work.
b. What was the cost of goods sold for May? Show your work.

a.

Beginning materials inventory	$36,000
Add: Purchases of raw materials	69,000
Raw materials available for use	105,000
Deduct: Ending raw materials inventory	24,000
Raw materials used in production	$81,000

b.

Cost of goods manufactured	$146,000
Add: Beginning finished goods inventory	57,000
Goods available for sale	203,000
Deduct: Ending finished goods inventory	28,000
Cost of goods sold	$175,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost of Goods Manufactured and Sold

129. During the month of January, Fisher Corporation, a manufacturing company, purchased raw materials costing $76,000. The cost of goods manufactured for the month was $129,000. The beginning balance in the raw materials account was $26,000 and the ending balance was $21,000. The beginning balance in the finished goods account was $52,000 and the ending balance was $35,000.

Required:

a. What was the cost of raw materials used in production during January? Show your work.
b. What was the cost of goods sold for January? Show your work.

a.

Beginning materials inventory	$26,000
Add: Purchases of raw materials	76,000
Raw materials available for use	102,000
Deduct: Ending raw materials inventory	21,000
Raw materials used in production	$81,000

b.

Cost of goods manufactured	$129,000
Add: Beginning finished goods inventory	52,000
Goods available for sale	181,000
Deduct: Ending finished goods inventory	35,000
Cost of goods sold	$146,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost of Goods Manufactured and Sold

130. A partial listing of costs incurred at Rust Corporation during August appears below:

Direct materials	$135,000
Utilities, factory	$11,000
Sales commissions	$69,000
Administrative salaries	$101,000
Indirect labor	$29,000
Advertising	$94,000
Depreciation of production equipment	$31,000
Direct labor	$73,000
Depreciation of administrative equipment	$40,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

a. Product costs consist of direct materials, direct labor, and manufacturing overhead:

Direct materials		$135,000
Direct labor		73,000
Manufacturing overhead:		
Utilities, factory	$11,000	
Indirect labor	29,000	
Depreciation of production equipment	31,000	71,000
Total product cost		$279,000

b. Period costs consist of all costs other than product costs:

Administrative salaries	$101,000
Sales commissions	69,000
Depreciation of administrative equipment	40,000
Advertising	94,000
Total period cost	$304,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

131. Machowski Corporation has provided the following partial listing of costs incurred during November:

Marketing salaries	$47,000
Property taxes, factory	$6,000
Administrative travel	$113,000
Sales commissions	$56,000
Indirect labor	$36,000
Direct materials	$119,000
Advertising	$63,000
Depreciation of production equipment	$56,000
Direct labor	$117,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

a. Product costs consist of direct materials, direct labor, and manufacturing overhead:

Direct materials		$119,000
Direct labor		117,000
Manufacturing overhead		
Property taxes, factory	$6,000	
Indirect labor	36,000	
Depreciation of production equipment	56,000	98,000
Total product cost		$334,000

b. Period costs consist of all costs other than product costs:

Administrative travel	$113,000
Sales commissions	56,000
Marketing salaries	47,000
Advertising	63,000
Total period cost	$279,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze

Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Manufacturing Companies

132. In October, Ringler Corporation had sales of $273,000, selling expenses of $26,000, and administrative expenses of $47,000. The cost of goods manufactured was $183,000. The beginning balance in the finished goods inventory account was $45,000 and the ending balance was $34,000.

Required:

Prepare an Income Statement in good form for October.

Income Statement		
Sales		$273,000
Cost of goods sold:		
Beginning finished goods inventory	$45,000	
Add: Cost of goods manufactured	183,000	
Goods available for sale	228,000	
Deduct: Ending finished goods inventory	34,000	194,000
Gross margin		79,000
Selling and administrative expenses:		
Selling expenses	26,000	
Administrative expenses	47,000	73,000
Net operating income		$6,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: How to Make Cost Information More Useful for Managers

133. In July, Neidich Inc., a merchandising company, had sales of $295,000, selling expenses of $24,000, and administrative expenses of $29,000. The cost of merchandise purchased during the month was $215,000. The beginning balance in the merchandise inventory account was $25,000 and the ending balance was $30,000.

Required:

Prepare an Income Statement in good form for July.

Income Statement		
Sales		$295,000
Cost of goods sold:		
Beginning merchandise inventory	$25,000	
Add: Purchases	215,000	
Goods available for sale	240,000	
Deduct: Ending merchandise inventory	30,000	210,000
Gross margin		85,000
Selling and administrative expenses:		
Selling expenses	24,000	
Administrative expenses	29,000	53,000
Net operating income		$32,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 1 Easy
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: How to Make Cost Information More Useful for Managers

134. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of heating a hardware store	Dollar sales
2.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled
3.	Cost of tomato sauce used at a pizza shop	Pizzas cooked
4.	Cost of shipping bags of fertilizer to a customer at a chemical plant	Bags shipped
5.	Cost of electricity for production equipment at a snowboard manufacturer	Snowboards produced
6.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced
7.	Cost of vaccine used at a clinic	Vaccines administered
8.	Cost of sales at a hardware store	Dollar sales
9.	Receptionist's wages at dentist's office	Number of patients
10.	Salary of production manager at a snowboard manufacturer	Snowboards produced

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

	Cost Description	Possible Measure of Activity	
1.	Cost of heating a hardware store	Dollar sales	Fixed
2.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled	Variable
3.	Cost of tomato sauce used at a pizza shop	Pizzas cooked	Variable
4.	Cost of shipping bags of fertilizer to a customer at a chemical plant	Bags shipped	Variable
5.	Cost of electricity for production equipment at a snowboard manufacturer	Snowboards produced	Variable
6.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced	Fixed
7.	Cost of vaccine used at a clinic	Vaccines administered	Variable
8.	Cost of sales at a hardware store	Dollar sales	Variable
9.	Receptionist's wages at dentist's office	Number of patients	Fixed
10.	Salary of production manager at a snowboard manufacturer	Snowboards produced	Fixed

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Understand
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

135. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of renting production equipment on a monthly basis at a surfboard manufacturer	Surfboards produced
2.	Pilot's salary on a regularly scheduled commuter airline	Number of passengers
3.	Cost of dough used at a pizza shop	Pizzas cooked
4.	Janitorial wages at a surfboard manufacturer	Surfboards produced
5.	Cost of shipping bags of garden mulch to a retail garden store	Bags shipped
6.	Salary of production manager at a surfboard manufacturer	Surfboards produced
7.	Property tax on corporate headquarters building	Dollar sales
8.	Cost of heating an electronics store	Dollar sales
9.	Shift manager's wages at a coffee shop	Dollar sales
10.	Cost of bags used in packaging chickens for shipment to grocery stores	Crates of chicken shipped

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

	Cost Description	Possible Measure of Activity	
1.	Cost of renting production equipment on a monthly basis at a surfboard manufacturer	Surfboards produced	Fixed
2.	Pilot's salary on a regularly scheduled commuter airline	Number of passengers	Fixed
3.	Cost of dough used at a pizza shop	Pizzas cooked	Variable
4.	Janitorial wages at a surfboard manufacturer	Surfboards produced	Fixed
5.	Cost of shipping bags of garden mulch to a retail garden store	Bags shipped	Variable
6.	Salary of production manager at a surfboard manufacturer	Surfboards produced	Fixed
7.	Property tax on corporate headquarters building	Dollar sales	Fixed
8.	Cost of heating an electronics store	Dollar sales	Fixed
9.	Shift manager's wages at a coffee shop	Dollar sales	Fixed
10.	Cost of bags used in packaging chickens for shipment to grocery stores	Crates of chicken shipped	Variable

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Understand
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

136. A number of costs are listed below.

	Cost Description	Cost Object
1.	Supervisor's wages in a computer manufacturing facility	A particular personal computer
2.	Salary of the president of a home construction company	A particular home
3.	Cost of tongue depressors used in an outpatient clinic at a hospital	The outpatient clinic
4.	Cost of lubrication oil used at the auto repair shop of an automobile dealer	The auto repair shop
5.	Manager's salary at a hotel run by a chain of hotels	The particular hotel
6.	Cost of screws used to secure wood trim in a yacht at a yacht manufacturer	A particular yacht
7.	Accounting professor's salary	The Accounting Department
8.	Cost of a measles vaccine administered at an outpatient clinic at a hospital	A particular patient
9.	Cost of electronic navigation system installed in a yacht at a yacht manufacturer	A particular yacht
10.	Wood used to build a home	A particular home

Required:

For each item above, indicate whether the cost is direct or indirect with respect to the cost object listed next to it.

	Cost Description	Cost Object	
1.	Supervisor's wages in a computer manufacturing facility	A particular personal computer	Indirect
2.	Salary of the president of a home construction company	A particular home	Indirect
3.	Cost of tongue depressors used in an outpatient clinic at a hospital	The outpatient clinic	Direct
4.	Cost of lubrication oil used at the auto repair shop of an automobile dealer	The auto repair shop	Direct
5.	Manager's salary at a hotel run by a chain of hotels	The particular hotel	Direct
6.	Cost of screws used to secure wood trim in a yacht at a yacht manufacturer	A particular yacht	Indirect
7.	Accounting professor's salary	The Accounting Department	Direct
8.	Cost of a measles vaccine administered at an outpatient clinic at a hospital	A particular patient	Direct
9.	Cost of electronic navigation system installed in a yacht at a yacht manufacturer	A particular yacht	Direct
10.	Wood used to build a home	A particular home	Direct

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Understand
Difficulty: 1 Easy
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

137. The following data relates to the Sunshine Company:

Direct Materials Inventory, Beginning	$ 40
Direct Materials Inventory, Ending	50
Direct Materials Purchases	210
Direct Labor	350
Finished Goods Inventory, Beginning	100
Finished Goods Inventory, Ending	95
Factory overhead	153
Work-in-Process Inventory, Beginning	65
Work-in-Process Inventory, Ending	80

Required: Calculate direct materials purchased, direct labor costs, and cost of goods sold.

	Sunshine		
	Statement of Cost of Goods Manufactured		
	For The Year Ended		
Direct Materials Used			
	Direct Materials Inventory, Beginning	$40	
	Direct Materials Purchases	210	
	Total Direct Materials Available	250	
	Direct Materials Inventory, Ending	$50	
Direct Materials Used			$200
Direct Labor			$350
Total Factory Overhead			153
Total Manufacturing Costs Incurred during year			$703
Work-in-Process Inventory, Beginning			$65
Total Manufacturing Costs to Account for			$768
Work-in-Process Inventory, Ending			$80
Cost of Goods Manufactured			$688
Cost of Goods Sold			
	Finished Goods Inventory, Beginning		$100
	Cost of Goods Manufactured		688
	Total Goods Available for Sale		788
	Finished Goods Inventory, Ending		95
Cost of Goods Sold			$ 693

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

Topic Area: Cost of Goods Manufactured and Sold

138. A computer virus destroyed some of the accounting records for Hampton Furniture Company for the periods of 2008-2010. The following information was salvaged from the computer system.

	12/31/08	12/31/09	12/31/10
Beginning direct materials	$ 50,250	**F**	$ 45,210
Purchases of direct materials	**A**	65,250	70,125
Ending direct materials	34,165	45,210	**L**
Direct materials used	91,385	54,205	**M**
Direct labor	**B**	155,050	162,000
Manufacturing overhead	115,325	**G**	127,145
Total manufacturing costs	**C**	319,255	364,130
Beginning work-in-process inventory	36,4590	**H**	29,635
Ending work-in-process inventory	21,985	29,635	**N**
Costs of goods manufactured	386,700	**I**	362,920
Beginning finished goods inventory	37,000	**J**	42,500
Ending finished goods inventory	**D**	42,500	39,550
Cost of goods sold	377,050	$315,755	**O**
Net sales	550,000	$495,000	**P**
Selling and Administrative Expenses	135,950	**K**	130,130
Net income	**E**	$ 46,250	39,000

Required: Determine the correct amounts for A through P.

	12/31/08		12/31/09		12/31/10	
Beginning direct materials	$ 50,250		**$ 34,165**	**F**	$ 45,210	
Purchases of direct materials	**75,300**	**A**	65,250		70,125	
Ending direct materials	34,165		45,210		**40,350**	**L**
Direct materials used	91,385		54,205		**74,985**	**M**
Direct labor	**165,525**	**B**	155,050		162,000	
Manufacturing overhead	115,325		**110,000**	**G**	127,145	
Total manufacturing costs	**372,235**	**C**	319,255		364,130	
Beginning work-in-process inventory	36,450		**21,985**	**H**	29,635	
Ending work-in-process inventory	21,985		29,635		**30,845**	**N**
Costs of goods manufactured	386,700		**311,605**	**I**	362,920	
Beginning finished goods inventory	37,000		**46,650**	**J**	42,500	
Ending finished goods inventory	**46,650**	**D**	42,500		39,550	
Cost of goods sold	377,050		315,755		**365,870**	**O**
Net sales	550,000		495,000		**535,000**	**P**
Selling and Administrative Expenses	135,950		**132,995**	**K**	130,130	
Net income	**$ 37,000**	**E**	$ 46,250		$ 39,000	

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Topic Area: Developing Financial Statements for Decision Making

139. Dave's Lighting Inc. produces lamps. During 2012, the company incurred the following costs:

Factory rent	$ 80,000
Direct labor used	425,000
Factory utilities	50,000
Direct materials purchases	600,000
Indirect materials	150,000
Indirect labor	90,000

Inventories for the year were:

	January 1	December 31
Direct materials	$100,000	$ 75,000
Work in process	20,000	10,000
Finished goods	250,000	215,000

Required: Prepare a statement of cost of goods manufactured and cost of goods sold.

		Dave's Lighting		
		Statement of Cost of Goods Manufactured		
		For the Year Ended Dec 31, 2010		
Direct Materials Used				
	Direct Materials Inventory, Beginning		$100,000	
	Direct Materials Purchases		600,000	
	Total Direct Materials Available		700,000	
	Direct Materials Inventory, Ending		$75,000	
Direct Materials Used				$625,000
Direct Labor				$425,000
Factory Overhead				
	Indirect mateials		150,000	
	Utilities for Plant		50,000	
	Indirect Labor		90,000	
	Factory rent		80,000	
Total Factory Overhead				$370,000
Total Manufacturing Costs Incurred during year				$1,420,000
Work-in-Process Inventory, Beginning				$20,000
Total Manufacturing Costs to Account for				$1,440,000
Work-in-Process Inventory, Ending				$10,000
Cost of Goods Manufactured				$1,430,000
Cost of Goods Sold				
	Finished Goods Inventory, Beginning			$250,000
	Cost of Goods Manufactured			1,430,000
	Total Goods Available for Sale			1,680,000
	Finished Goods Inventory, Ending			215,000
Cost of Goods Sold				$ 1,465,000

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Cost of Goods Manufactured and Sold

140. Explain the difference between an outlay cost, and expense, and an opportunity cost.

An outlay cost is any cash outflow, either past, present or future. An expense is a cost that is charged against revenue in an accounting period. Not all outlay costs are expense—they may have future benefit in which case they are assets. An opportunity cost is not an outlay—it is the benefit that is forgone or not being received by choosing one alternative over another.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-01 Explain the basic concept of "cost."
Topic Area: Cost versus Expenses

141. Explain the difference between a cost, a cost object, and a cost pool.

A cost is a sacrifice of resources. It may be either an outlay cost or an opportunity cost. A cost object is any end for which we want to know the cost. A cost pool is a collection of costs to be assigned to the cost objects.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-03 Explain the process of cost allocation.
Topic Area: Cost Allocation

142. Explain the difference between direct materials inventory, work in process inventory, finished goods inventory and cost of goods sold.

Direct materials inventory contains the raw materials (or the costs of the materials) that will be used in production. Work in process contains the product (or the accumulated costs) that has been started into production but are not yet completed. Finished goods contains the completed product (or the cost of it) but not yet sold. Cost of goods sold contains the costs associated with the product that has been sold.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

143. Explain the difference between cost of goods manufactured and cost of goods sold.

Cost of goods manufactured consists of all the costs attached to the production completed during the period. Cost of goods manufactured is removed from the work in process account and added to the finished goods account. Cost of goods sold consists of the costs of the goods that are sold during the period. Cost of goods sold is removed from the finished goods account and expensed on the income statement.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Topic Area: Details of Manufacturing Cost Flows

144. Explain the difference between a direct cost and an indirect cost.

A direct cost is any cost that can be directly and unambiguously related to a cost object in an economic fashion. An indirect cost is any cost that cannot be directly related to a cost object.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-02 Explain how costs are presented in financial statements.
Topic Area: Direct and Indirect Manufacturing (Product) Costs

145. The following information applies to the Johnson Tools Company for the year ended December 31, 2010:

Factory Rent	$ 330,000
Direct Materials Inventory, Beginning	96,000
Direct Materials Inventory, Ending	87,000
Direct Materials Purchases	654,000
Direct Labor--Wages	425,000
Indirect Labor--Wages	28,000
Finished Goods Inventory, Beginning	25,000
Finished Goods Inventory, Ending	44,000
Indirect Materials	66,000
Plant Utilities	40,000
General and Administrative	101,350
Work-in-Process Inventory, Beginning	27,000
Work-in-Process Inventory, Ending	33,000
Marketing Expenses	225,000
Sales Revenue	2,550,000

Required: Prepare a statement of cost of goods manufactured and an income statement for the year ended December 31, 2010

Statement of Cost of Goods Manufactured				
For the Year Ended Dec. 31,		2010		
Direct Materials Used				
Direct Materials Inventory, Beginning		$96,000		
Direct Materials Purchases	+	654,000		
Total Direct Materials Available		750,000		
Direct Materials Inventory, Endi	-	87,000		
Direct Materials Used				$663,000
Direct Labor--Wages				425,000
Factory Overhead				
Indirect Materials		$66,000		
Plant Utilities		40,000		
Factory Rent		330,000		
Indirect Labor--Wages		28,000		
Total Factory Overhead			+	464,000
Total Manufacturing Costs Incurred during year				1,552,000
Work-in-Process Inventory, Beginning			+	27,000
Total Manufacturing Costs to Account for				1,579,000
Work-in-Process Inventory, Ending			-	33,000
Cost of Goods Manufactured				$1,546,000
Income Statement				
For the Year Ended December 31,		2010		
Sales Revenue				$2,550,000
Cost of Goods Sold				
Finished Goods Inventory, Beginning		$25,000		
Cost of Goods Manufactured		1,546,000		
Total Goods Available for Sale		1,571,000		
Finished Goods Inventory, Ending		44,000		
Cost of Goods Sold				1,527,000
Gross Margin				$1,023,000
Marketing Expenses		$225,000		
General and Administrative		101,350		
Total Selling & Administrative Expenses				326,350
Operating Income				$696,650

AACSB: Reflective Thinking

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Topic Area: Cost of Goods Manufactured and Sold

146. The following information applies to the General Lawnmower Company for the year ended December 31, 2010:

Factory Rent	$ 80,000
Direct Materials Inventory, Beginning	50,000
Direct Materials Inventory, Ending	45,000
Direct Materials Purchases	325,000
Direct Labor--Wages	550,000
Indirect Labor--Wages	25,000
Finished Goods Inventory, Beginning	50,000
Finished Goods Inventory, Ending	75,000
Indirect Materials	50,000
Plant Utilities	25,000
General and Administrative	130,000
Work-in-Process Inventory, Beginnin	50,000
Work-in-Process Inventory, Ending	55,000
Marketing Expenses	180,000
Sales Revenue	1,825,000

Required: Prepare a statement of cost of goods manufactured and an income statement for the year ended December 31, 2010.

		General Lawnmower Company			
		Statement of Cost of Goods Manufactured			
		For the Year Ended Dec. 31	2010		
Direct Materials Used					
	Direct Materials Inventory, Beginning		$50,000		
	Direct Materials Purchases	+	325,000		
	Total Direct Materials Available		375,000		
	Direct Materials Inventory, E	-	45,000		
Direct Materials Used					$330,000
Direct Labor–Wages					550,000
Factory Overhead					
	Indirect Materials		$50,000		
	Plant Utilities		25,000		
	Factory Rent		80,000		
	Indirect Labor--Wages		25,000		
Total Factory Overhead				+	180,000
Total Manufacturing Costs Incurred during year					1,060,000
Work-in-Process Inventory, Beginning				+	50,000
Total Manufacturing Costs to Account for					1,110,000
Work-in-Process Inventory, Ending				-	55,000
Cost of Goods Manufactured					$1,055,000

General Lawnmower Company		
Income Statement		
For the Year Ended December 31, 2010		
Sales Revenue		$1,825,000
Cost of Goods Sold		
Finished Goods Inventory, Beginning	$50,000	
Cost of Goods Manufactured	1,055,000	
Total Goods Available for Sale	1,105,000	
Finished Goods Inventory, Ending	75,000	
Cost of Goods Sold		1,030,000
Gross Margin		$795,000
Marketing Expenses	$180,000	
General and Administrative	130,000	
Total Selling & Administrative Expenses		310,000
Operating Income		$485,000

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Topic Area: Cost of Goods Manufactured and Sold

147. Standford Corporation has provided the following data for the month of February:

Sales	$280,000
Raw materials purchases	$76,000
Direct labor cost	$42,000
Manufacturing overhead	$77,000
Selling expense	$20,000
Administrative expense	$35,000

Inventories:	Beginning	Ending
Raw materials	$22,000	$33,000
Work in process	$15,000	$23,000
Finished goods	$52,000	$43,000

Required:

a. Prepare a Schedule of Cost of Goods Manufactured in good form for February.

b. Prepare an Income Statement in good form for February.

a. Schedule of Cost of Goods Manufactured

Direct materials:		
Beginning materials inventory	$22,000	
Add: Purchases of raw materials	76,000	
Raw materials available for use	98,000	
Deduct: Ending raw materials inventory	33,000	
Raw materials used in production		$65,000
Direct labor		42,000
Manufacturing overhead		77,000
Total manufacturing costs		184,000
Add: Beginning work in process inventory		15,000
		199,000
Deduct: Ending work in process inventory		23,000
Cost of goods manufactured		$176,000

b. Income Statement

Sales		$280,000
Cost of goods sold:		
Beginning finished goods inventory	$52,000	
Add: Cost of goods manufactured	176,000	
Goods available for sale	228,000	
Deduct: Ending finished goods inventory	43,000	185,000
Gross margin		95,000
Selling and administrative expenses:		
Selling expenses	20,000	
Administrative expenses	35,000	55,000
Net operating income		$40,000

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-04 Understand how material; labor; and overhead costs are added to a product at each stage of the production process.
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Cost of Goods Manufactured and Sold

148. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of heating a hardware store	Dollar sales
2.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled
3.	Cost of tomato sauce used at a pizza shop	Pizzas cooked
4.	Cost of shipping bags of fertilizer to a customer at a chemical plant	Bags shipped
5.	Cost of electricity for production equipment at a snowboard manufacturer	Snowboards produced
6.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced
7.	Cost of vaccine used at a clinic	Vaccines administered
8.	Cost of sales at a hardware store	Dollar sales
9.	Receptionist's wages at dentist's office	Number of patients
10.	Salary of production manager at a snowboard manufacturer	Snowboards produced

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

	Cost Description	Possible Measure of Activity	
1.	Cost of heating a hardware store	Dollar sales	Fixed
2.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled	Variable
3.	Cost of tomato sauce used at a pizza shop	Pizzas cooked	Variable
4.	Cost of shipping bags of fertilizer to a customer at a chemical plant	Bags shipped	Variable
5.	Cost of electricity for production equipment at a snowboard manufacturer	Snowboards produced	Variable
6.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced	Fixed
7.	Cost of vaccine used at a clinic	Vaccines administered	Variable
8.	Cost of sales at a hardware store	Dollar sales	Variable
9.	Receptionist's wages at dentist's office	Number of patients	Fixed
10.	Salary of production manager at a snowboard manufacturer	Snowboards produced	Fixed

AACSB: Reflective Thinking
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-05 Define basic cost behaviors; including fixed; variable; semivariable; and step costs.
Topic Area: Fixed versus Variable Costs

149. You have the following information regarding Crosby Company:

Sales 25,000 units per year at $45 per unit
Production 30,000 units in 2007 and 20,000 units in 2008
At the beginning of 2007 there was no inventory.
Variable manufacturing costs are $30.00 per unit
Fixed manufacturing costs are $150,000 per year
Marketing costs are all fixed at $75,000 per year

Required:

(a) Prepare an income statement under absorption costing for 2007 and 2008. Include a column for both years taken together.
(b) Prepare an income statement under variable costing for 2007 and 2008. Include a column for both years taken together.
(c) Comment on the results and reconcile any differences in income.

(a)

Crosby Company Income Statement Absorption costing				
	2007		**2008**	**Total**
Sales (25,000x$45)	$1,125,000		$1,125,000	$2,250,000
Cost of goods sold:				
Beginning inventory	0		175,000	0
Current production	1,050,000		750,000	1,800,000
Ending inventory	(175,000	)	0	0
Cost of goods sold:	875,000		925,000	1,800,000
Gross margin	250,000		200,000	450,000
Marketing costs	75,000		75,000	150,000
Operating income	$ 175,000		$ 125,000	$ 300,000

(b)

Variable costing				
	2007		2008	Total
Sales(25,000 x $45)	$1,125,000		$1,125,000	$2,250,000
Variable costs (25,000 x $30)	750,000		750,000	1,500,000
Contribution margin	375,000		375,000	750,000
Fixed Manufacturing costs	150,000		150,000	300,000
Fixed Marketing costs	75,000		75,000	150,000
Operating income	$150,000		$ 150,000	$ 300,000

(c) In 2007, production exceeded sales by 5,000 units. $25,000 of committed production costs (150,000/30,000 = $5 per unit x 5,000 units) are inventoried under absorption costing but expensed under variable costing. This gives the appearance of a higher profit in 2007 for absorption costing. In 2008, the sales exceeded production. The inventoried costs from 2007 flow through to cost of goods sold in 2008 under absorption costing. These same costs had already been expensed in 2007 under variable costing. This gives variable costing the higher income. The total for both methods is the same for both years, since all revenues and costs are the same and no inventory remains at the end of 2008.

AACSB: Analytic
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Developing Income Statements for Decision Making

150. Dimmick Corporation produces and sells a single product at $40 per unit. During 2012, the company produced 200,000 units, 160,000 of which were sold during the year. All ending inventory was in finished goods inventory; there was no inventory on hand at the beginning of the year. The following data relate to the company's production process:

Direct materials	$550,000
Direct labor	400,000
Variable Manufacturing overhead	100,000
Fixed Manufacturing overhead	300,000
Variable marketing and administrative	160,000
Fixed marketing and administrative	110,000

Required:

Calculate the following.
(a) The unit cost of ending inventory on the balance sheet prepared for stockholders.
(b) The unit cost of ending inventory on a variable cost balance sheet.
(c) The operating income using absorption costing
(d) The operating income using variable costing.
(e) The ending inventory using absorption costing.
(f) The ending inventory using variable costing.
(g) A reconciliation of the difference in operating income between absorption costing and variable costing using the shortcut method.

(a) $6.75 ($550,000 + $400,000 + $100,000 + $300,000 = $1,350,000/200,000 = $6.75)
(b) $5.25 ($550,000 + $400,000 + $100,000 = $1,050,000/200,000 = $5.25)
(c) $5,050,000 (Sales ($6,400,000) - Cost of goods sold ($1,080,000) - Marketing ($270,000))
(d) $4,990,000 (Sales ($6,400,000) - Variable cost of goods sold ($840,000) - Committed overhead ($300,000) - Marketing (270,000))
(e) $270,000 (40,000 units x $6.75)
(f) $210,000 (40,000 units x $5.25)
(g)

Operating income, absorption costing	$5,050,000
Operating income, variable costing	4,990,000
Excess of absorption operating income over variable operating income	$60,000

Difference in fixed overhead	Change in inventory	Fixed-overhead
Expensed under absorption	= in units	x rate per unit
Costing and variable costing		

Fixed manufacturing overhead:	$300,000	
Units produced	200,000	= $1.50 per unit (absorption costing)

Change in inventory	Fixed-Overhead Rate	Difference in Fixed Overhead Expensed
40,000 units	x $1.50	= $60,000

AACSB: Analytic

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 3 Hard

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Topic Area: Developing Income Statements for Decision Making

151. Consider the following cost and production information for Bedell Metal Company, Inc.

	Part C-2472		Part D-1340		All other parts	
Quantity	**144**		**120**		**1140**	
	Subtotal	Average Per unit	Subtotal	Average Per unit	Subtotal	Average Per unit
Direct costs						
Materials cost	$ 180,000	$ 1,250	$405,000	$ 3,375	$2,446,440	$ 2,146
Conversion cost	72,000	500	129,000	1,075	974.700	855
Total direct costs	$252,000	$ 1,750	$534,000	$4,450	$3,421,140	$ 3,001
Indirect costs						
Indirect production Cost	885,600	6,150	738,000	6,150	7,011,000	6,150
Indirect operating cost	723,600	5,025	603,000	5,025	5,728,480	5,025
Total indirect costs	$1,609,200	$11,175	$ 1,341,000	$11,175	$12,739,480	$11,175
Total costs	$1,861,200	$12,925	$ 1,875,000	$15,625	$16,160,620	$14,176

Additional information:

- Sales revenue: $20,000,000
- Beginning inventory: $1,150,000
- Sales of part D-1340: 80 units
- Sales of all other parts are the same as the number of units produced.
- Sales price of part D-1340: $35,500 per unit
- The only spending increase was for material cost due to increased production. All other spending as shown above was unchanged.

Bedell Metal Company uses the variable costing method.

Required

(a) Compute the contribution margin, operating income, and ending inventory for Bedell Metal Company

(b) Assume that sales of part D-1340 increases by 30 units to 110 units during the given period (production remains constant). Re-compute the above figures.

(c) Mary Keenan, the controller of Bedell Metal Company., is considering the use of absorption costing instead of variable costing to be in line with financial reporting requirements. She knows that the use of a different costing method will give rise to different incentives. Explain to her how alternative methods of calculating product costs create different incentives.

(a)

Sales revenue:		$20,000,000
Variable cost of goods sold:		
Materials:	$2,896,440	
Variable conversion:	1,132,700	$ 4,029,140
Contribution margin:		$ 15,970,860
Operating expense:		
Indirect manufacturing costs:	8,634,600	
Indirect operating costs:	7,055,080	$ 15,689,680
Operating income:		$ 281,180
Inventory:		
Beginning inventory:	$ 1,150,000	
+ Cost of goods manufactured:	4,207,140	
- Cost of goods sold:	4,029,140	
Ending inventory:	$ 1,328,000	

Note: Variable cost of goods sold is based on 144 units of part C-2472, 80 units of part D-1340 and 570 units of all other parts. The increase in inventory from $1,150,000 to $1,328,000 ($178,000) equals 40 units of part D-1340 x variable cost per unit of $4,450.

(b)

Sales revenue:		$21,065,000
Variable cost of goods sold:		
Materials:	$2,997,690	
Variable conversion:	1,164,950	$ 4,162,640
Contribution margin:		$ 16,902,360
Operating expense:		
Indirect manufacturing costs:	8,634,600	
Indirect operating costs:	7,055,080	$ 15,689,680
Operating income:		$ 1,212,680
Inventory:		
Beginning inventory:	$1,150,000	
+ Cost of goods manufactured:	4,207,140	
- Cost of goods sold:	4,162,640	
Ending inventory:	$ 1,194,500	

Note: Variable cost of goods sold is based on 144 units of part C-2472, 110 units of part D-1340 and 1,140 units of all other parts. Notice also that revenues have increased by $1,065,000 for 30

additional units of part D-1340 at $35,500 per unit. Variable expenses have increased by $133,500 for the additional 30 units of part D-1340 at $4,450 per unit. Overall, the contribution margin and operating income are $931,500 higher than in requirement a ($1,065,000 - $133,500 = $931,500).

(c) Alternative costing methods typically result in different income numbers. Why?

• Because of the way in which resource costs are included in determining the income numbers.

• Variable and absorption costing add costs of resources used to products without considering whether spending to supply resources is affected.

• Some resources are unaffected by how those resources are used.

• Producing more hides these costs in inventory.

Why are these differences important?

• Because managers are typically rewarded on the basis of income.

• Managers want to maximize income.

What are the problems in managers trying to maximize income?

• Sometimes the actions managers may take to maximize income may not be in the long-term best interests of the company.

• Absorption costing and also variable costing, to some extent, will motivate the manager to produce more in order to reduce the average costs.

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 2 Medium
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Developing Income Statements for Decision Making

152. Consider the following cost and production information for Dover Automotive Components, Inc.

	Part C-1849		Part D-1251		All other parts	
Quantity	**72**		**60**		**570**	
		Average		Average		Average
	Subtotal	Per unit	Subtotal	Per unit	Subtotal	Per unit
Direct costs						
Materials cost	$ 45,000	$ 625	$101,400	$ 1,690	$ 611,610	$ 1,073
Conversion cost	18,000	250	32,400	540	243,960	428
Total direct costs	$ 63,000	$ 875	$133,800	$2,230	$ 855,570	$ 1,501
Indirect costs						
Indirect manufacturing cost	221,400	3,075	184,500	3,075	1,752,750	3,075
Indirect operating cost	181,080	2,515	150,900	2,515	1,433,550	2,515
Total indirect costs	$402,480	$ 5,590	$ 335,400	$ 5,590	$3,186,300	$ 5,590
Total costs	$465,480	$ 6,465	$ 469,200	$ 7,820	$4,041,870	$ 7,091

Additional information:

• Sales revenue: $5,200,000

• Beginning inventory: $275,000

• The only spending increase was for material cost due to increased production. All other spending as shown above was unchanged.

• Sales of all parts are the same as the number of units produced.

Dover Automotive Components, Inc. uses the absorption costing method.

Required:

(a) Compute the gross margin, operating income, and ending inventory for Dover Automotive Components, Inc.

(b) Assume that production of part D-1251 increases by 25 units during the given period (sales remain constant). Re-compute the above figures.

(c) Ernest Murphy, the cost manager of Dover Automotive Components, argues with the controller that variable costing is a better method for product costing. Using the information in part b above, re-compute the operating income for Dover Automotive Components using variable costing. Explain any differences in the operating incomes obtained under the two different methods.

(a)

Sales revenue:		$5,200,000
Absorption cost of goods sold:		
Materials:	$ 758,010	
Variable conversion:	294,360	
Indirect manufacturing:	2,158,650	$3,211,020
Gross margin:		$1,988,980
Operating expense:		
Indirect operating costs:	1,765,530	$1,765,530
Operating income:		$ 223,450
Inventory:		
Beginning inventory:	$ 275,000	
+ Cost of goods manufactured:	3,211,020	
- Cost of goods sold:	3,211,020	
Ending inventory	$ 275,000	

Note: Absorption cost of goods sold is based on 72 units of part C-1849, 60 units of part D-1251 and 570 units of all other parts.

(b)

Sales revenue:		$5,200,000
Absorption cost of goods sold:		
Materials:	$ 758,010	
Variable conversion:	294,360	
Indirect manufacturing:	2,071,384	$3,123,754
Gross margin:		$2,076,246
Operating expense:		
Indirect operating costs:	1,765,530	$1,765,530
Operating income:		$ 310,716

Inventory:		
Beginning inventory:	$ 275,000	
+ Cost of goods manufactured:	3,253,270	(increases by $42,250 for the materials costs
		Incurred for the 25 additional units of part
		D-1251 produced, at $1,690 per unit)
- Cost of goods sold:	3,123,754	
Ending inventory:	$ 404,516	

Note: Absorption cost of goods sold is based on 72 units of part C-1849, 60 units of part D-1251 and 570 units of all other parts. Indirect production cost has changed from $2,158,650 to

$2,071,384 as follows:

$2,158,650 - $13,500 = $2,145,150; $2,145,150/727 units = $2,950.69 per unit; = $2,950.69 X 702 units = $2,071,384.

The amount of $13,500 is the variable conversion cost assigned to the 25 additional units of part D-1251 that are produced ($540 X 25 units = $13,500); this amount is deducted from indirect production costs.

(c)

Sales revenue:		$5,200,000
Variable cost of goods sold:		
Materials:	$ 758,010	
Variable conversion:	294,360	$1,052,370
Contribution margin:		$4,147,630
Operating expense:		
Indirect manufacturing:	2,145,150	
Indirect operating costs:	1,765,530	$3,910,680
Operating income:	$ 236,950	

Inventory:		
Beginning inventory:	$ 275,000	
+ Cost of goods manufactured:	1,108,120	(includes an additional $42,250 for the materials
		costs and $13,500 for the variable conversion
		costs incurred for the 25 additional units
		of part D-1251
- Cost of goods sold:	1,052,370	
Ending inventory:	$ 330,750	

Note: Variable cost of goods sold is based on 72 units of part C-1849, 60 units of part D-1251 and 570 units of all other parts. Indirect production cost has changed from $2,158,650 to $2,145,150 as follows:

$2,158,650 - $13,500 = $2,145,150. The amount of $13,500 is the variable conversion cost assigned to the 25 additional units of part D-1251 that are produced ($540 X 25 units = $13,500); this amount is deducted from indirect production costs.

The difference in operating income from the use of variable versus absorption costing is $73,766, which comes entirely from the amount of indirect production costs considered in the two methods ($2,145,150 - $2,071,384). Under absorption costing, this amount is carried to inventory as the indirect production costs for the 25 additional units produced ($2,145,150/727 units = $2,950.69; $2,950.69 X 25 units x $73,767).

AACSB: Analytic
AICPA BB: Critical Thinking
AICPA FN: Measurement
Blooms: Analyze
Difficulty: 3 Hard
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: Developing Income Statements for Decision Making

153. Hurwitz Corporation had the following activities during 2007:

Raw Materials:	
Inventory January 1, 2007	$200,000
Purchases of raw materials	318,000
Inventory December 31,2007	210,000
Direct manufacturing labor	180,000
Utilities: plant	50,000
Depreciation: plant and equipment	40,000
Indirect materials	30,000
Indirect labor	150,000
Other manufacturing overhead	60,000
Sales revenues	1,250,000
Selling and administrative expenses	150,000
Income tax rate	30%
Work in process inventory, December 31,2007	120,000
Work in process inventory, January 1,2007	64,000
Finished goods inventory, January 1, 2007	80,000
Finished goods inventory, December 31, 2007	150,000

Required:

(a) Prepare a schedule of cost of goods manufactured for 2007.

(b) Prepare a schedule of cost of goods sold for 2007.

(c) Prepare an income statement for 2007.

Hurwitz Corporation Schedule of Cost of Goods Manufactured For the year ended December 31, 2007		
Direct materials used:		
Beginning inventory raw materials	$200,000	
Purchases of raw materials	318,000	
Ending inventory raw materials	(210,000)	
Direct materials used		$308,000
Direct labor		180,000
Manufacturing overhead:		
Utilities: plant	$50,000	
Depreciation plant and equipment	40,000	
Indirect materials	30,000	
Indirect labor	150,000	
Other manufacturing overhead	60,000	330,000
Total manufacturing costs		$818,000
Beginning work-in-process		64,000
Ending work-in-process		(120,000)
Cost of goods manufactured		$762,000

(a)

Hurwitz Corporation Schedule of Cost of Goods Sold For the year ended December 31, 2007		
Beginning inventory finished goods		$80,000
Cost of goods manufactured		762,000
Ending inventory finished goods		(150,000)
Cost of goods sold		$692,000

Hurwitz Corporation Income Statement For the year ended December 31, 2007		
Sales revenue		$1,250,000
Cost of goods sold		692,000
Gross margin		558,000
Selling and administrative expenses		150,000
Income before income taxes		408,000
Income tax expense		122,400
Net income		$ 285,600

AACSB: Analytic

AICPA BB: Critical Thinking

AICPA FN: Measurement

Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

154. Lyon Toys, Inc. (LTI) manufactures a variety of electronic toys for children aged 3 to 14 years. The company started as a Ma & Pa basement operation, and grew steadily over the last nine years. It now employs over 100 people and has sales revenue of over $250 million. Katie Burger, the CEO of LTI also recognizes that competition has increased during this period; therefore future growth will not be easy.

Burger recognizes that one of the areas of weakness is the accounting and costing system. Burger's maternal uncle, Martin, had maintained the accounts for the company. He meticulously kept track of all the invoices that were received, payments made, and painstakingly prepared crude annual reports. With Martin passing away at the age of 85, Burger decided to hire a professional cost management expert to keep track of the company's costs. She hired Molly Wright, who had just completed her CMA.

After acquainting Wright with the company and its people, Burger decided to get down to business. She called Wright to her office to have a serious conversation about accounting and costing, in particular.

Burger: Molly, I would like you to pay particular attention to developing an official costing system. Currently, we don't have one. I believe this should be your first priority because competition is rising and if we do not understand our costs, we might start losing to our rivals.

Wright: I understand your point very well, Ms. Burger.

Burger: Call me Katie.

Wright: Very well, Katie. I have a few ideas that I picked up from my CMA courses that I think are worth implementing. However, it looks like we need to start with the basics.

Required:

Assume the role of Molly Wright. Write a brief report outlining the basics of a cost management information system. Include in your report the following:

- Resources and costs
- Supply of resources vs. the use of resources
- Classification of costs (three dimensions of resources)
- Alternative costing systems

A cost manager implementing a costing system must make other individuals aware of the following basics of cost management systems.

Resources and costs

- Resources are consumed by organizations to transform inputs into outputs

• Resources are not free

Supply versus use of resources

• A distinction must be made between resources acquired and resources used
• Some resources are acquired in advance, whereas others are acquired as needed
• The resources acquired may not all be used, thereby creating excess capacity
• Additional demand may require acquiring additional resources.

The dimensions of resources

• Resources are identified by three dimensions:
• type of resource acquired (material, conversion, operating)
• how the resource is used (production, non-production)
• how traceable a resource is to a particular decision (direct, indirect)

Alternative costing systems

• The nature of supply and use of resources gives rise to different costing systems
• Three alternative costing systems exist:
• Variable costing
• Absorption costing

AACSB: Communication
AICPA BB: Industry
AICPA FN: Measurement
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.
Topic Area: How to Make Cost Information More Useful for Managers