

***Fundamentals of Cost Accounting 6th edition Lanen
Test Bank***

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Fundamentals of Cost Accounting, 6e (Lanen)
Chapter 2 Cost Concepts and Behavior

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

Answer: TRUE

Explanation: This statement is true. This statement is the definition of cost.

Difficulty: 1 Easy

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

2) An expense is a cost charged against revenue in an accounting period.

Answer: TRUE

Explanation: This statement is the definition of an expense.

Difficulty: 1 Easy

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

3) If a cost is recorded as an asset (for example, prepaid rent for an office building), it becomes an expense when the asset has been consumed.

Answer: TRUE

Explanation: This statement is true. This statement describes the appropriate transition between assets and expenses.

Difficulty: 2 Medium

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: Opportunity costs are not reflected in the accounting system—they are what did not happen.

Difficulty: 2 Medium

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: This statement is false. Purchases plus beginning inventory minus ending inventory equals cost of goods sold.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

6) Cost of goods sold includes the actual costs of the goods sold and the costs required to sell them to the customer.

Answer: FALSE

Explanation: This statement is false. Cost of goods sold does not include selling costs.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: This statement is false. This statement describes product costs, not period costs.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: This statement is false. Product costs can include both direct and indirect costs.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: TRUE

Explanation: This statement is true. This statement is the definition of product cost.

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: The first step in determining whether a cost is direct or indirect is defining the cost object.

Difficulty: 2 Medium

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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.

Answer: TRUE

Explanation: This statement is true. This is the correct formula for total work-in-process.

Difficulty: 2 Medium

Topic: How Costs Flow through the Statements

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: TRUE

Explanation: This statement is true. This statement works backwards from cost of goods sold to cost of goods manufactured.

Difficulty: 2 Medium

Topic: How Costs Flow through the Statements

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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.

Answer: TRUE

Explanation: This statement is true. $\text{Cost of goods sold} = \text{cost of goods manufactured} + \text{beginning finished goods inventory} - \text{ending finished goods inventory}$.

Difficulty: 2 Medium

Topic: How Costs Flow through the Statements

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: This statement is false. Total variable costs are linear and vary directly with changes in the volume of activity, fixed costs vary inversely.

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: TRUE

Explanation: This statement is true. Fixed costs per unit would vary inversely with the volume of activity.

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: TRUE

Explanation: This statement is true. This statement is the definition of a relevant range.

Difficulty: 1 Easy

Topic: Cost Behavior

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

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: TRUE

Explanation: This statement is true. We need to distinguish between full cost (which includes selling costs) and full absorption cost (which does not include selling costs.)

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: The two costs are included in full cost, but not in determining full absorption costs.

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: This statement is false. Revenue minus cost of goods sold equals gross margin.

Difficulty: 2 Medium

Topic: How to Make Cost Information More Useful to Managers

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: FALSE

Explanation: This statement is false. The primary goal is to provide managers with information for decision making.

Difficulty: 1 Easy

Topic: How to Make Cost Information More Useful to Managers

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

21) 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.

Answer: B

Explanation: Opportunity cost is the forgone benefit that could have been realized from the best forgone alternative use of a resource. Opportunity cost is not attached to products.

Difficulty: 1 Easy

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

22) 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 of these are true.
- D) None of these are true.

Answer: A

Explanation: Opportunity costs are not recorded.

Difficulty: 1 Easy

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

23) 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 of these are false.
- D) None of these are false.

Answer: A

Explanation: Expense is for external financial statements.

Difficulty: 2 Medium

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 24) 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.

Answer: D

Explanation: Opportunity cost is the forgone benefit that could have been realized from the best forgone alternative use of a resource, whereas outlay cost is a past, present, or future cash outflow.

Difficulty: 1 Easy

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 25) 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) Freight out.

Answer: D

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

26) 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

Answer: B

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

27) 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.

Answer: A

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

28) Tallon Company manufactures a single product. The product's prime costs consist of

- A) direct materials and direct labor.
- B) direct materials and manufacturing overhead.
- C) direct labor and manufacturing overhead.
- D) direct materials, direct labor and manufacturing overhead.

Answer: A

Explanation: Prime costs are direct materials and direct labor.

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 29) 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) prime cost.

Answer: A

Explanation: Fire insurance for the manufacturing plant is part of product costs.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 30) 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.

Answer: D

Explanation: Rent on the headquarters building is a period cost whereas the other answer choices are product costs.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 31) 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

Answer: C

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

32) Doran Technical 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

Answer: D

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

33) 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

Answer: B

Explanation: Direct labor is the only cost that fits both terms.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

34) Marketing costs include all of the following **except**:

- A) Advertising.
- B) Shipping costs.
- C) Sales commissions.
- D) Legal and accounting fees.

Answer: D

Explanation: Legal and accounting are administrative rather than marketing.

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

35) 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

Answer: C

Explanation: Property taxes on the manufacturing facility is a product cost since it is a part of manufacturing, but taxes are also indirect, so they are a conversion cost.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

36) The cost of 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.

Answer: D

Explanation: Direct labor is expensed when the products are sold. This supports the matching principle.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

37) 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

Answer: C

Explanation: $\$1,500 + \$1,000 + \$2,000 = \$4,500$

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

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

Answer: C

Explanation: The corporate controller's salary is an administrative cost.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

39) 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

Answer: D

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

40) Grover Company has the following data for the production and sale of 2,000 units.

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

What is the conversion cost per unit?

- A) \$100
- B) \$180
- C) \$280
- D) \$380

Answer: C

Explanation: $\$100 + \$80 + (\$200,000/2,000) = \280 .

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

41) Grover Company has the following data for the production and sale of 2,000 units.

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

What is the prime cost per unit?

- A) \$100
- B) \$280
- C) \$300
- D) \$480

Answer: C

Explanation: $\$200 + \$100 = \$300$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

42) 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.

Answer: A

Explanation: Shipping to customers is a selling (period) cost.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

43) The following cost data for the month of May were taken from the records of the Terrence 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.

Answer: B

Explanation: $\$1,000 + \$28,000 + \$47,000 + \$2,000 + \$500 + \$1,500 = \$80,000$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

44) Which of the following is **not** a name for indirect resources?

- A) Overhead costs
- B) Burden
- C) Direct costs
- D) Common costs

Answer: C

Explanation: All answer options are names for indirect resources except direct costs.

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

45) 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

Answer: C

Explanation: Only wages and benefits of the workers that transform the materials into a finished product should be included in direct labor cost.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

46) Tulsa Company, (a merchandising co.) has the following data pertaining to the year ended December 31, 2019: (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

Answer: B

Explanation: $\$170,000 + \$450,000 + \$50,000 - \$210,000 = \$460,000$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

47) The Shoal Company's manufacturing costs for the third quarter of 2019 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

Answer: D

Explanation: $\$700,000 + \$100,000 + \$80,000 + \$18,000 = \$898,000$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

48) 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.

Answer: D

Explanation: The three elements of manufacturing cost are direct materials, direct labor and manufacturing overhead.

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

49) Prime cost consists of direct materials combined with:

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

Answer: A

Explanation: Direct materials and direct labor = Prime costs

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

50) 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.

Answer: D

Explanation: The first step in classifying a cost as either direct or indirect is defining the cost object to which the cost is being related.

Difficulty: 2 Medium

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

51) 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.

Answer: C

Explanation: This statement is a definition of cost allocation.

Difficulty: 1 Easy

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

52) A(n) _____ is any end to which a cost is assigned.

- A) cost object
- B) cost pool
- C) cost allocation
- D) opportunity cost

Answer: A

Explanation: This statement is a definition of a cost object.

Difficulty: 1 Easy

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

53) 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

Answer: D

Explanation: Correct! This statement is a definition of a cost allocation rule.

Difficulty: 2 Medium

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

54) 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.

Answer: C

Explanation: $\text{Beginning WIP Inventory} + \text{Total Manufacturing Costs} = \text{Total WIP during the period.}$

Difficulty: 2 Medium

Topic: How Costs Flow through the Statements

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

55) 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.

Answer: A

Explanation: Product costs are expensed when the goods are sold. This supports the matching principle.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

56) 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.

Answer: C

Explanation: $\text{DM available for production} - \text{Ending DM Inventory} = \text{DM issued to production}$.

Difficulty: 2 Medium

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 57) 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) cost of goods available for sale for the period.

Answer: D

Explanation: Beginning FG Inventory + Cost of Goods Manufactured = Cost of Goods Available.

Difficulty: 2 Medium

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 58) 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.

Answer: D

Explanation: Direct labor would be part of the cost of WIP Inventory for the goods not completed, and also part of the cost of FG Inventory for the goods completed but not yet sold.

Difficulty: 2 Medium

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

59) The Work-in-Process Inventory of the Model Fabricating Corp. was \$3,000 higher on December 31, 2019 than it was on January 1, 2019. This implies that in 2019:

- 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) total manufacturing costs were less than cost of goods manufactured.

Answer: B

Explanation: If WIP Inventory was higher at the end of the year than at the beginning of the year, then the cost of goods manufactured must have been less than the total manufacturing costs for the year.

Difficulty: 3 Hard

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

60) 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.

Answer: C

Explanation: Management salaries are a period cost.

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

61) 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.

Answer: C

Explanation: Gross margin = Sales – Cost of Goods Sold. Cost of Goods Sold includes all manufacturing costs (both fixed and variable). It does not include selling costs.

Difficulty: 1 Easy

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Remember

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

62) 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

Answer: A

Explanation: 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.

Difficulty: 3 Hard

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

63) 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 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.

Answer: B

Explanation: $\$300 + \$1,400 - \$400 = \$1,300$ (Direct materials used in production)

$\$500 + \$1,300 + \$1,500 + \$1,600 - \$600 = \$4,300$ (COGM)

$\$700 + \$4,300 - \$800 = \$4,200$ (COGS)

Difficulty: 3 Hard

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

64) Compute the Cost of Goods Sold for 2019 using the following information:

Direct Materials, Jan. 1, 2019	\$ 40,000
Work-in-Process, Dec. 31, 2019	69,000
Direct Labor	48,500
Finished Goods, Dec. 31, 2019	105,000
Finished Goods, Jan. 1, 2019	128,000
Manufacturing Overhead	72,500
Direct Materials, Dec. 31, 2019	43,000
Work-in Process, Jan. 1, 2019	87,000
Purchases of Direct Material	75,000

- A) \$244,000
- B) \$234,000
- C) \$211,000
- D) \$198,000

Answer: B

Explanation: $\$40,000 + \$75,000 - \$43,000 = \$72,000$ (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)

Difficulty: 3 Hard

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

65) Foxburg 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.

Answer: A

Explanation: $\$500 + \$7,700 - \$1,500 = \$6,700$ (Direct materials used in production)

$\$400 + \text{COGM} - \$900 = \$15,600$; $\text{COGM} = \$16,100$

$\$300 + \$6,700 + \text{Direct Labor} + \$4,300 - \$700 = \$16,100$; Direct Labor = \$5,500

Difficulty: 3 Hard

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

66) Foxburg 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

Answer: B

Explanation: $\$400 + \text{COGM} - \$900 = \$15,600$; $\text{COGM} = \$16,100$

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

Difficulty: 3 Hard

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

67) 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

Answer: A

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

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

68) During April, the Meade Enterprises 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

Answer: B

Explanation: $\$1,500,000 - \$600,000 = \$900,000$ (COGS): $\$125,000 + \text{COGM} - \$100,000 = \$900,000$; $\text{COGM} = \$875,000$

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

69) 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.

Answer: B

Explanation: Taxes are fixed in behavior, and since they are on the factory building, they are a product cost.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements; Cost Behavior

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-05 Define basic cost behaviors, including fixed, variable, semivariable, and step costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

70) 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.

Answer: D

Explanation: Supplies are variable in behavior, and since they are used to assembly products, they are a product cost.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements; Cost Behavior

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-05

Define basic cost behaviors, including fixed, variable, semivariable, and step costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

71) 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.

Answer: C

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements; Cost Behavior

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-05

Define basic cost behaviors, including fixed, variable, semivariable, and step costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

72) 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 take X-rays? 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

- A) Option A
- B) Option B
- C) Option C
- D) Option D

Answer: B

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

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

73) Barton's Taco Tico has four taco makers and ten other employees who take orders from customers and perform other tasks. The four taco makers and the other employees are paid an hourly wage. How would you classify (1) the wages paid to the taco makers and other employees and (2) materials (e.g., cheeses, salsa, tomatoes, lettuce, taco shells, etc.) used to make the tacos? Assume the activity is the number of tacos made.

	Employees' Wages	Materials to Make the Tacos
A.	Fixed cost	Fixed cost
B.	Fixed cost	Variable cost
C.	Variable cost	Fixed cost
D.	Variable cost	Variable cost

- A) Choice A
- B) Choice B
- C) Choice C
- D) Choice D

Answer: D

Explanation: Employees' wages would be a variable cost (maybe semi variable), while the materials to make tacos are variable.

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 74) 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.

Answer: B

Explanation: Within the relevant range, unit variable costs are constant, total variable costs fluctuate; unit fixed costs fluctuate, total fixed costs are constant.

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

- 75) 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

Answer: B

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

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements; Cost Behavior

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-05 Define basic cost behaviors, including fixed, variable, semivariable, and step costs.

Bloom's: Understand

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

76) 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.

Answer: A

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

Difficulty: 1 Easy

Topic: Cost Behavior

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

Bloom's: Remember

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

77) 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 of these are true.
 - D) None of these are true.

Answer: A

Explanation: Part (1) is true because 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.

Difficulty: 2 Medium

Topic: Cost Behavior

Learning Objective: 02-05 Define basic cost behaviors, including fixed, variable, semivariable, and step costs.; 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

78) 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

Answer: B

Explanation: Labor + Overhead = \$20 + \$15 + \$6 = \$41

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

79) 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

Answer: D

Explanation: Material + Labor = \$32 + \$20 = \$52

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

80) 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

Answer: A

Explanation: $\$32 + \$20 + \$15 + \$3 = \$70$

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

81) Grover Company has the following data for the production and sale of 2,000 units.

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

What is the variable manufacturing cost per unit?

- A) \$380
- B) \$430
- C) \$480
- D) \$730

Answer: A

Explanation: $\$200 + \$100 + \$80 = \380

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

82) Grover Company has the following data for the production and sale of 2,000 units.

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

What is the total manufacturing cost per unit?

- A) \$380
- B) \$430
- C) \$480
- D) \$730

Answer: C

Explanation: $\$200 + \$100 + \$80 + (\$200,000/2,000) = \$480$

Difficulty: 3 Hard

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

83) Grover Company has the following data for the production and sale of 2,000 units.

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

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

- A) \$430
- B) \$480
- C) \$530
- D) \$730

Answer: D

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

Difficulty: 3 Hard

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

84) Grover Company has the following data for the production and sale of 2,000 units.

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

What is the contribution margin per unit?

- A) \$70
- B) \$320
- C) \$370
- D) \$430

Answer: C

Explanation: $\$800 - \$200 - \$100 - \$80 - \$50 = \370

Difficulty: 3 Hard

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

85) The following information was collected from the accounting records of the Part SX9 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 Part SX9's total cost per unit?

- A) \$180.
- B) \$200.
- C) \$210.
- D) \$250.

Answer: D

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

Difficulty: 3 Hard

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

86) Mountainburg 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.

	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	<u>\$ 146</u>	<u>\$ 88</u>
Estimated selling price per unit	\$ 170	\$ 100
Actual research and development costs	\$240,000	\$175,000
Estimated advertising costs	\$500,000	\$350,000

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

For Mountainburg's Product L, the costs for direct materials, machining labor, and assembly labor represent

- A) Conversion costs.
- B) Period costs.
- C) Prime costs.
- D) Common costs.

Answer: C

Explanation: Materials + Labor = Prime Costs

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

The difference between the \$100 estimated selling price for Mountainburg's Product W and its total manufacturing cost of \$88 represents

- A) Contribution margin per unit.
- B) Gross margin per unit.
- C) Variable cost per unit.
- D) Operating profit per unit.

Answer: B

Explanation: Selling price – COGS = Gross Margin

Difficulty: 2 Medium

Topic: How to Make Cost Information More Useful to Managers

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

88) Mountainburg 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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Direct materials	\$ 44	\$ 36
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Total Manufacturing Cost	<u>\$ 146</u>	<u>\$ 88</u>
Estimated selling price per unit	\$ 170	\$ 100
Actual research and development costs	\$240,000	\$175,000
Estimated advertising costs	\$500,000	\$350,000

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

The total overhead cost of \$27 for Mountainburg's Product W is a(n)

- A) Sunk cost.
- B) Opportunity cost.
- C) Variable cost.
- D) Mixed cost.

Answer: D

Explanation: The total overhead cost is a mixed cost as it includes both fixed and variable costs.

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

89) Mountainburg 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.

	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	<u>\$ 146</u>	<u>\$ 88</u>
Estimated selling price per unit	\$ 170	\$ 100
Actual research and development costs	\$240,000	\$175,000
Estimated advertising costs	\$500,000	\$350,000

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

Direct material costs for Mountainburg's two new products are

- A) Prime costs.
- B) Conversion costs.
- C) Opportunity costs.
- D) Period costs.

Answer: A

Explanation: Prime costs are the direct costs, namely, direct materials and direct labor.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

90) Mountainburg 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.

	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	<u>\$ 146</u>	<u>\$ 88</u>
Estimated selling price per unit	\$ 170	\$ 100
Actual research and development costs	\$240,000	\$175,000
Estimated advertising costs	\$500,000	\$350,000

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

The advertising costs for the product selected by Mountainburg will be

- A) Prime costs.
- B) Conversion costs.
- C) Period costs.
- D) Opportunity costs.

Answer: C

Explanation: Advertising is a selling cost and considered a period cost since its influence cannot be tied to changes in volume.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

91) 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.

Answer: D

Explanation: Full absorption includes all fixed and variable manufacturing costs.

Difficulty: 2 Medium

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

92) Ramos 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 costs under full absorption costing?

- A) \$29
- B) \$42
- C) \$52
- D) \$60

Answer: C

Explanation: $\$13 + \$12 + \$17 + \$10 = \$52$

Difficulty: 3 Hard

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

93) Ramos 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 costs under variable costing?

- A) \$29
- B) \$42
- C) \$52
- D) \$60

Answer: B

Explanation: $\$13 + \$12 + \$17 = \42

Difficulty: 3 Hard

Topic: Components of Product Costs

Learning Objective: 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

94) Vegas 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

Vegas 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

Answer: B

Explanation: $\$100 - (\$25 + \$20 + \$19 + \$12) = \24 ; $\$24 \times 10,000 = \$240,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

95) Vegas 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

Vegas 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

Answer: C

Explanation: $\$100 - (\$25 + \$20 + \$19 + \$7) = \29 ; $\$29 \times 10,000 = \$290,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

96) Vegas 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

Vegas 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

Answer: A

Explanation: $\$100 - (\$25 + \$20 + \$19 + \$12 + \$7) = \$17$; $\$17 \times 10,000 = \$170,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

97) Vegas 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

Vegas 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

Answer: A

Explanation: $\$100 - (\$25 + \$20 + \$19 + \$12 + \$7) = \$17$; $\$17 \times 10,000 = \$170,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

98) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

Cost of goods sold using variable costing is:

- A) \$110,000
- B) \$120,000
- C) \$144,000
- D) \$40,000

Answer: B

Explanation: $(\$96,000 + \$48,000)/4,800 = \$30$ per unit $\times 4,000 = \$120,000$

Difficulty: 3 Hard

Topic: How to Make Cost Information More Useful to Managers

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

99) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

Cost of goods sold using absorption costing is:

- A) \$246,667
- B) \$120,000
- C) \$180,000
- D) \$40,000

Answer: C

Explanation: $(\$96,000 + \$48,000 + \$72,000)/4,800 = \45 per unit $\times 4,000 = \$180,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

100) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

The variable costing operating income is:

- A) \$120,000
- B) \$140,000
- C) \$104,000
- D) \$128,000

Answer: D

Explanation: $\$400,000 - [(\$96,000 + \$48,000) / 4,800 \times 4,000] - \$72,000 - \$80,000 = \$128,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

101) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

The absorption costing operating income is:

- A) \$120,000
- B) \$140,000
- C) \$128,000
- D) \$112,000

Answer: B

Explanation: $\$400,000 - [(\$96,000 + \$48,000 + \$72,000) / 4,800 \times 4,000] - \$80,000 = \$140,000$

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

102) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

The variable costing ending inventory is:

- A) \$36,000
- B) \$8,000
- C) \$40,000
- D) \$24,000

Answer: D

Explanation: $(\$96,000 + \$48,000)/4,800 = \$30$ per unit; $\$30$ per unit $\times$ 800 units = \$24,000

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

103) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

The absorption costing ending inventory is:

- A) \$40,000
- B) \$24,000
- C) \$36,000
- D) \$8,000

Answer: C

Explanation: $(\$96,000 + \$48,000 + \$72,000)/4,800 = \45 per unit; $\$45$ per unit $\times$ 800 units = \$36,000

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

104) The following information is available for Barnes Company for the fiscal year ended December 31:

Beginning finished goods inventory in units	0
Units produced	4,800
Units sold	4,000
Sales	\$ 400,000
Materials cost	\$ 96,000
Variable conversion cost used	\$ 48,000
Fixed manufacturing cost	\$ 72,000
Indirect operating costs (fixed)	\$ 80,000

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

- A) 800 units times \$15 per unit fixed manufacturing cost.
- B) 800 units times \$10 per unit materials cost.
- C) 800 units times \$20 per unit variable conversion cost plus \$15 per unit fixed manufacturing cost.
- D) 800 units times \$20 per unit variable conversion cost plus \$15 per unit fixed manufacturing cost plus \$16.67 per unit indirect operating costs.

Answer: A

Explanation: Variable costing ending inventory: $(\$96,000 + \$48,000)/4,800 = \$30$ per unit;
Absorption costing ending inventory: $(\$96,000 + \$48,000 + \$72,000)/4,800 = \45 per unit; $\$45 - \$30 = \$15$; \$15 per unit fixed manufacturing costs $\times$ 800 units in ending inventory.

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

105) Absorption costing measures operating profit as:

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

Answer: C

Explanation: Sales – absorption cost of goods sold = operating profit.

Difficulty: 2 Medium

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Understand

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

106) 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.

Answer: D

Explanation: Inventoriable costs are regarded as assets until units are sold.

Difficulty: 2 Medium

Topic: How to Make Cost Information More Useful to Managers; Details of Manufacturing Cost Flows

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

107) The following information is available for the Weston 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.

Answer: (a) $\$809,000 - x = \$170,000$; $x = \underline{\$639,000}$.

(b) $\$170,000 - x = \$65,500$; $x = \underline{\$104,500}$.

(c) $\$65,500 - [(0.34)(\$65,500)] = x$; $x = \underline{\$43,230}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

108) The following information is available for the Cherryville Enterprises, Inc. 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.

Answer: (a) $\$900,000 - x = \$315,000$; $x = \underline{\$585,000}$.

(b) $\$315,000 - x = \$85,000$; $x = \underline{\$230,000}$.

(c) $\$85,000 - (0.32 \times \$85,000) = \underline{\$57,800}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

109) The following information is available for the Tenor Music 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:

- Prepare a cost of goods sold statement for Tenor Music Store.
- Compute the gross margin for the fiscal year ended December 31.

Answer: (a)

Tenor Music Store Cost of Goods Sold Statement For Year Ended December 31		
Beginning inventory		\$ 79,000
Cost of goods purchased:		
Merchandise cost	\$ 450,000	
Purchase returns and allowances	(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 revenue (net)		\$ 787,500
Cost of goods sold		416,600
Gross margin		<u>\$ 370,900</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

110) **Required:**

Using the table below as a reference, describe whether the following costs incurred in a manufacturing company are (a) fixed or variable and (b) product or period. The first cost item is presented in the table as an example.

	Cost Item	Fixed	Variable	Product	Period
E	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.

Answer:

	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	

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements; Cost Behavior

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-05

Define basic cost behaviors, including fixed, variable, semivariable, and step costs.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

111) The Torchdown 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 Torchdown Company's product has resulted in the company needing more space. The renter's lease will expire next month and Torchdown 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:

Using the table below as a reference, describe which cost headings best identify the costs listed in the first column. As more than one type of cost can be applicable, ensure to list all possibilities when entering your answers (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							

Answer:

	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

Difficulty: 2 Medium

Topic: What is a Cost?; Presentation of Costs in Financial Statements; Cost Behavior; Details of Manufacturing Cost Flows

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-05 Define basic cost behaviors, including fixed, variable, semivariable, and step costs.; 02-01 Explain the basic concept of "cost."

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

112) The following cost and inventory data were taken from the records of the Flagstaff 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	December 31
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) Compute the cost of goods sold.

Answer: (a)

Beginning work-in-process inventory	\$ 6,000
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Manufacturing costs during the year:

Direct materials

Beginning inventory	\$ 9,000
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Purchases (net)	124,000
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Direct materials available	133,000
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Ending inventory	(11,000)
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Direct materials put into production	\$ 122,000
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Direct labor	80,000
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Manufacturing overhead

Depreciation, factory equipment	\$ 30,000
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Supplies, factory	1,500
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Maintenance, factory equipment	20,000
--------------------------------	--------

Utilities, factory	8,000
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Indirect labor	54,500
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Rent, factory building	70,000
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Total manufacturing overhead	184,000
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Total manufacturing costs Incurred	386,000
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Ending work-in-process Inventory	(21,000)
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Cost of goods manufactured	\$ 371,000
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(b)

Beginning finished goods inventory	\$ 69,000
Cost of goods manufactured	371,000
Cost of goods available for sale	<u>440,000</u>
Ending finished goods inventory	<u>(24,000)</u>
Costs of goods sold	<u>\$ 416,000</u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

113) The Foxboro 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:

- Compute the total manufacturing costs incurred during the year.
- Compute the total work-in-process during the year.
- Compute the cost of goods manufactured during the year.
- Compute the cost of goods sold during the year.
- Compute the total prime costs for the year.
- Compute the total conversion costs for the year.

Answer:

- $(\$250,800 + 1,750,200 - 169,400) + 1,004,300 + 2,693,400 = x$; $x = \underline{\$5,529,300}$.
- $\$101,000 + 5,529,300 = x$; $x = \underline{\$5,630,300}$.
- $\$5,630,300 - 57,900 = x$; $x = \underline{\$5,572,400}$.
- $\$307,400 + 5,572,400 - 511,000 = x$; $x = \underline{\$5,368,800}$.
- $(\$250,800 + 1,750,200 - 169,400) + 1,004,300 = x$; $x = \underline{\$2,835,900}$.
- $\$1,004,300 + 2,693,400 = x$; $x = \underline{\$3,697,700}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

114) The cost accountant for the Corner 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.

Answer:

(a) $\$84.75 + 27.50 + 14.25 + 5.30 + 2.90 = x$; $x = \underline{\$134.70}$.

(b) $\$84.75 + 27.50 + 14.25 = x$; $x = \underline{\$126.50}$.

(c) $\$84.75 + 27.50 + 14.25 + (\$120,000/5,000) = x$; $x = \underline{\$150.50}$.

(d) $\$84.75 + 27.50 + 14.25 + 5.30 + 2.90 + [(120,000 + 50,000 + 75,000)/5,000] = x$; $x = \underline{\$183.70}$.

(e) $\$210.00 - (\$84.75 + 27.50 + 14.25 + 5.30 + 2.90) = x$; $x = \underline{\$75.30}$.

(f) $\$210.00 - [\$84.75 + 27.50 + 14.25 + (120,000/5,000)] = x$; $x = \underline{\$59.50}$.

(g) $\$210.00 - [\$84.75 + 27.50 + 14.25 + 5.30 + 2.90 + [(120,000 + 50,000 + 75,000)/5,000]] = x$; $x = \underline{\$26.30}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements; Cost Behavior; Components of Product Costs

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-05 Define basic cost behaviors, including fixed, variable, semivariable, and step costs.; 02-06 Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

115) The cost accountant for the Friendly 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.

Answer:

(a)

Friendly Manufacturing Company Contribution Margin Income Statement For the Month Ended July 31		
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)

Friendly Manufacturing Company
Gross Margin Income Statement
For the Month Ended July 31

Revenues		\$ 1,050,000
Cost of goods sold:		
Direct materials	\$ 423,750	
Direct labor	137,500	
Mfg. overhead	<u>191,250</u>	
Cost of goods sold:		<u>752,500</u>
Gross margin		297,500
Expenses:		
Marketing costs	76,500	
Administrative costs	<u>89,500</u>	
Total expenses		<u>166,000</u>
Operating profits		<u>\$ 131,500</u>

Difficulty: 3 Hard

Topic: How to Make Cost Information More Useful to Managers

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

116) Shuster Industries 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 factory 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.

Answer:

(a)

$[(\$500,000 + 250,000 + 25,000 + 37,500 + 50,000)/25,000] = \text{Variable mfg. costs per unit}$

Variable mfg. cost per unit = \$34.50.

$(\$34.50 \times 30,000) + (50,000 + 12,500 + 125,000 + 68,000 + 62,500) = \text{Total mfg. costs}$

Total manufacturing costs = \$1,035,000 + \$318,000 = \$1,353,000.

(b)

$[(\$250,000 + 25,000 + 37,500 + 50,000)/25,000] = \text{Conversion costs per unit}$

Conversion costs per unit = \$14.50.

$(\$14.50 \times 30,000) + (50,000 + 12,500 + 125,000 + 68,000 + 62,500) = \text{Total conversion costs}$

Total conversion costs = \$435,000 + \$318,000 = \$753,000.

(c)

$(\$149,150 + 30,000 + 48,800)/23,500 = \text{Period costs per unit}$

Period costs per unit = \$9.70.

$(\$9.70 \times 30,000) + (300,000 + 48,000) = \text{Total period costs}$

Total period costs = \$639,000.

$\$639,000/30,000 = \text{Period costs per unit}$

Period costs per unit = \$21.30.

(d)

$(\$1,353,000/30,000) + \$21.30 = \text{Full costs per unit}$

Full costs per unit = \$66.40.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; Cost Behavior; Components of Product Costs; Details of Manufacturing Cost Flows

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-05

Define basic cost behaviors, including fixed, variable, semivariable, and step costs.; 02-06

Identify the components of a product's costs.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

117) Each column below is independent and for a different company. Use the data given, which refers 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	

Answer:

(a) $(\$x + 16,100 - 4,850) = \$15,300$; $x = \underline{\$4,050}$.

(b) $\$2,700 + 55,550 - 3,800 = x$; $x = \underline{\$54,450}$.

(c) $\$103,300 - 56,050 = x$; $x = \underline{\$47,250}$.

(d) $\$x + 30,486 - 4,928 = 30,464$; $x = \underline{\$4,906}$.

(e) $\$3,920 + 13,440 - 3,248 = x$; $x = \underline{\$14,112}$.

(f) $\$x - 30,464 = 18,368$; $x = \underline{\$48,832}$.

(g) $\$68,744 + 129,688 + x = 320,424$; $x = \underline{\$121,992}$.

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

118) The following data appeared in Moline Company's records on December 31:

Direct Materials Inventory, Dec. 31	\$ 535,500
Direct Materials purchased during the year	2,268,000
Finished Goods Inventory, Dec. 31	567,000
Indirect labor	201,600
Direct labor	2,520,000
Factory heat, light, and power	234,360
Factory depreciation	396,900
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, Dec. 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:

- (a) Prepare a cost of goods manufactured statement.
- (b) Prepare a cost of goods sold statement.
- (c) Prepare a gross margin income statement.

Answer: (a):

Moline Company
Cost of Goods Manufactured Statement
For the Year Ended December 31

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

(b):

Moline Company
Cost of Goods Sold Statement
For the Year Ended December 31

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

(c):

Moline Company
Gross Margin Income Statement
For the Year Ended December 31

Revenues		\$ 6,687,500
Cost of goods sold		<u>5,888,190</u>
Gross margin		<u>799,310</u>
Marketing costs [\$233,100 + 10,080]	<u>243,180</u>	
Administrative costs [\$323,820 + 113,400 + 51,660]	<u>488,880</u>	
Total expenses		<u>732,060</u>
Operating profit		<u>\$ 67,250</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

119) The information below has been taken from the cost records of Gator 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:

- Calculate the cost of direct materials purchased during the year.
- Calculate the direct labor costs charged to production during the year.
- Calculate the cost of goods manufactured during the year.
- Calculate the cost of goods sold for the year.

Answer: (a) $\$75 + x - 85 = 326$; $x = \underline{\$336}$.

(b) $\$326 + x + 135 = \686 ; $x = \underline{\$225}$.

(c) $\$80 + 686 - 30 = \underline{\$736}$.

(d) $\$826 - 110 = \underline{\$716}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

120) Information from the records of the Shawnee 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:

- Prepare a statement of cost of goods manufactured and sold for the month of January.
- Prepare a gross margin income statement for the month of January.

Answer:

(a)

Shawnee Production Company	
Cost of Goods Manufactured and Sold Statement	
For the Month Ended January 31	
Beginning Work-in-Process inventory	\$ 2,100
Direct Materials:	
Beginning inventory	\$ 8,000
Purchases	18,000
Ending inventory	<u>(8,700)</u>
Direct materials put into production	17,300
Direct labor	10,400
Manufacturing overhead:	
Indirect labor	5,000
Depreciation on machinery	3,000
Rent on building	<u>7,000</u>
Total manufacturing overhead	<u>15,000</u>
Total work-in-process during the month	44,800
Ending work-in-process Inventory	<u>(3,200)</u>
Cost of goods manufactured	<u>\$ 41,600</u>
Beginning finished goods inventory	5,000
Finished goods available for sale	46,600
Ending finished goods inventory	<u>(5,700)</u>
Cost of goods sold	<u>\$ 40,900</u>

(b)

Shawnee Production Company
Gross Margin Income Statement
For the Month Ended January 31

Sales	\$ 55,300
Cost of goods sold	40,900
Gross margin	14,400
Selling & administrative expenses	<u>6,300</u>
Operating profit	<u>8,100</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

121) The information below has been taken from the cost records of Toro 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:

- Calculate the cost of direct materials purchased during the year.
- Calculate the direct labor costs charged to production during the year.
- Calculate the cost of goods manufactured during the year.
- Calculate the cost of goods sold for the year.

Answer:

- $\$175 + x - 155 = 572$; $x = \underline{\$552}$.
- $\$572 + x + 255 = \$1,095$; $x = \underline{\$268}$.
- $\$220 + 1,095 - 190 = \underline{\$1,125}$.
- $\$1,415 - 310 = \underline{\$1,105}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

122) Information from the records of the Navaho Industries for the month of 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:	July 1	July 31
Direct materials	\$ 8,000	\$ 6,700
Work-in-process	1,100	1,600
Finished goods	9,000	6,800

Required:

- Prepare a statement of cost of goods manufactured and sold for the month of July.
- Prepare a gross margin income statement for the month of July.

Answer:

(a)

Navaho Industries		
Cost of Goods Manufactured and Sold Statement		
For the Month Ended July 31		
Beginning Work-in-Process Inventory		\$ 1,100
Direct Materials:		
Beginning inventory	\$8,000	
Purchases	24,000	
Ending direct materials	(6,700)	
Direct materials put into production		25,300
Direct labor		13,200
Manufacturing overhead:		
Indirect labor	6,500	
Depreciation on machinery	3,600	
Rent on building	8,400	
Total manufacturing overhead		18,500
Total work-in-process during the month		57,000
Ending work-in-process inventory		(1,600)
Cost of goods manufactured		\$ 56,500
Beginning finished goods inventory		9,000
Finished goods available for sale		65,500
Ending finished goods inventory		(6,800)
Cost of goods sold		\$ 58,700

(b)

Sales	\$75,300
Cost of goods sold	58,700
Gross margin	16,600
Selling & administrative expenses	<u>8,900</u>
Operating profit	<u>\$ 7,700</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

123) The Yellville 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:

- Compute the total manufacturing costs incurred during the year.
- Compute the total work-in-process during the year.
- Compute the cost of goods manufactured during the year.
- Compute the cost of goods sold during the year.
- Compute the total prime costs for the year.
- Compute the total conversion costs for the year.

Answer:

- $[\$501,600 + 3,500,400 - 338,800] + 2,008,600 + 5,368,800 = x$; $x = \underline{\$11,040,600}$.
- $\$202,000 + 11,040,600 = x$; $x = \underline{\$11,242,600}$.
- $\$11,242,600 - 115,800 = x$; $x = \underline{\$11,126,800}$.
- $\$614,800 + 11,126,800 - 1,022,000 = x$; $x = \underline{\$10,719,600}$.
- $[\$501,600 + 3,500,400 - 338,800] + 2,008,600 = x$; $x = \underline{\$5,671,800}$.
- $\$2,008,600 + 5,368,800 = x$; $x = \underline{\$7,377,400}$.

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

124) The Younce Equipment 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:

- Compute the total manufacturing costs incurred during the year.
- Compute the total work-in-process during the year.
- Compute the cost of goods manufactured during the year.
- Compute the cost of goods sold during the year.

Answer:

(a) $[(\$125,400 + 875,100 - 84,700) + 502,150 + 1,364,700] = x$; $x = \underline{\$2,782,650}$.

(b) $\$50,500 + 2,782,650 = x$; $x = \underline{\$2,833,150}$.

(c) $\$2,833,150 - 28,950 = x$; $x = \underline{\$2,804,200}$.

(d) $\$153,700 + 2,804,200 - 255,500 = x$; $x = \underline{\$2,702,400}$.

Difficulty: 2 Medium

Topic: Presentation of Costs in Financial Statements; How Costs Flow through the Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-04

Understand how material, labor, and overhead costs are added to a product at each stage of the production process.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

125) Mobile Device 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, May 1	118,200
Merchandise inventory, May 31	124,600
Freight-in	54,600
Administrative costs	115,100
Merchandise purchases	1,091,000

Required:

Prepare a gross margin income statement for the month of May.

Answer:

Mobile Device Retail Gross Margin Income Statement For the Month Ended May 31		
Sales revenue		\$1,650,000
Merchandise inventory (5/1)	\$ 118,200	
Purchases	1,091,000	
Freight-in	54,600	
Goods available for sale	1,263,800	
Less merchandise inventory (5/31)	(124,600)	
Cost of goods sold		1,139,200
Gross margin		510,800
Selling and administrative expenses:		
Sales commissions	247,500	
Store rent	84,000	
Utilities	57,200	
Administrative	115,100	
Total selling and administrative expenses		503,800
Operating profit		7,000

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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 a gross margin income statement for the month of August.

Answer:

Fowler Retail Gross Margin Income Statement For the Month Ended August 31		
Sales revenue		\$1,155,000
Merchandise inventory (8/1)	\$ 87,220	
Purchases	763,700	
Freight-in	30,300	
Goods available for sale	881,220	
Less merchandise inventory (5/31)	(82,740)	
Cost of goods sold		798,480
Gross margin		356,520
Selling and administrative expenses:		
Sales commissions	173,300	
Store rent	58,800	
Utilities	40,400	
Administrative	80,600	
Total selling and administrative expenses		353,100
Operating profit		\$ 3,420

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

127) Zach Hartman 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 Zach will rent for \$4,000 per month. Utilities will cost \$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. Zach estimates the materials cost per finished unit of product to be \$50, and the labor cost to be \$10. He will hire hourly paid 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. Zach 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 an overhead cost and a product cost. There would be an "X" placed under each of these headings opposite the cost.

				Product Cost			
	Opportunity Cost	Variable Cost	Fixed Cost	Direct Materials	Direct Labor	Manufacturing Overhead	Selling Cost
Facility rent							
Utilities							
Personal computer depreciation							
Equipment rent							
Materials cost							
Labor cost							
Present salary							
Advertising							

Answer:

					Product Cost		
	Opportunity Cost	Variable Cost	Fixed Cost	Direct Materials	Direct Labor	Manufacturing Overhead	Selling Cost
Facility rent			X			X	
Utilities			X			X	
Personal computer depreciation			X			X	
Equipment rent			X			X	
Materials cost		X		X			
Labor cost		X			X		
Present salary	X						
Advertising			X				X

Difficulty: 3 Hard

Topic: What is a Cost?; Cost Behavior; Components of Product Costs

Learning Objective: 02-05 Define basic cost behaviors, including fixed, variable, semivariable, and step costs.; 02-06 Identify the components of a product's costs.; 02-01 Explain the basic concept of "cost."

Bloom's: Apply

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

128) A manufacturing company has provided the following data for the month of March:

Inventories:

	Beginning	Ending
Raw materials	\$ 36,000	\$ 24,000
Finished goods	\$ 57,000	\$ 28,000

Raw materials purchased during March 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 March? Show your work.
 (b) What was the cost of goods sold for March? Show your work.

Answer:

(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	<u>\$ 81,000</u>

(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	<u>\$175,000</u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

129) During the month of June, Bolder 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 inventory account was \$26,000 and the ending balance was \$21,000. The beginning balance in the finished goods inventory account was \$52,000 and the ending balance was \$35,000.

Required:

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

Answer:

(a)

Beginning raw materials inventory	\$ 26,000
Add: Purchases of raw materials	<u>76,000</u>
Raw materials available for use	102,000
Deduct: Ending raw materials inventory	<u>21,000</u>
Raw materials used in production	<u><u>\$ 81,000</u></u>

(b)

Cost of goods manufactured	\$129,000
Add: Beginning finished goods inventory	<u>52,000</u>
Goods available for sale	181,000
Deduct: Ending finished goods inventory	<u>35,000</u>
Cost of goods sold	<u><u>\$146,000</u></u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

130) A partial listing of costs incurred at Marshall 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 costs listed above? Show your work.
 (b) What is the total amount of period costs listed above? Show your work.

Answer:

(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 costs		<u>\$ 279,000</u>

(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 costs	<u>\$ 304,000</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

131) Grankowski 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 costs listed above? Show your work.
 (b) What is the total amount of period costs listed above? Show your work.

Answer:

- 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 costs			<u>\$334,000</u>

- 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 costs	<u>\$ 279,000</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements

Learning Objective: 02-02 Explain how costs are presented in financial statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

132) In October, Youngstown 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.

Answer:

Youngstown Corporation Income Statement For Month Ended October 31		
Sales		\$ 273,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	\$ 45,000	
Add: Cost of goods manufactured	183,000	
Goods available for sale	<u>228,000</u>	
Deduct: Ending Finished Goods Inventory	<u>34,000</u>	194,000
Gross margin		<u>79,000</u>
Selling and administrative expenses:		
Selling expenses	26,000	
Administrative expenses	<u>47,000</u>	<u>73,000</u>
Net operating income		<u>\$ 6,000</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

133) In July, Mountain Life, 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.

Answer:

Mountain Life, Inc. Income Statement For Month Ended July 31			
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			<u>\$ 32,000</u>

Difficulty: 3 Hard

Topic: Presentation of Costs in Financial Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-02 Explain how costs are presented in financial statements.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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.

Answer:

	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	Snowboard produced	Fixed

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

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.

Answer:

	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

Difficulty: 2 Medium

Topic: Cost Behavior

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

Bloom's: Understand

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

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.	Manger'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.

Answer:

	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.	Manger'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 patient	Direct
10.	Wood used to build a home	A particular home	Direct

Difficulty: 2 Medium

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Understand

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

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:

- (a) Compute the direct materials used during the year.
- (b) Compute the cost of goods manufactured during the year.
- (c) Compute the cost of goods sold during the year.

Answer:

(a) $\$40 + 210 - 50 = x$; $x = \$200$.

(b) $\$65 + (\$200 + 350 + 153) - 80 = x$; $x = \$688$.

(c) $\$100 + 688 - 95 = x$; $x = \$693$.

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

138) A computer virus destroyed some of the accounting records for Dorchester Antique Remodeling Company for the years 2019–2021. The following information was salvaged from the computer system.

Required:

Determine the correct amounts for A through P.

	12/31/19	12/31/20	12/31/21
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	319,705	364,130
Beginning work-in-process inventory	36,450	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	377,500	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

Answer:

	12/31/19	12/31/20	12/31/21
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	155,500	162,000
Manufacturing overhead	115,325	110,450_G	127,145
Total manufacturing costs	372,235_C	319,705	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	312,055_I	362,920
Beginning finished goods inventory	37,000	46,200_J	42,500
Ending finished goods inventory	46,200_D	42,500	39,550
Cost of goods sold	377,500	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	36,550_E	46,250	39,000

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Analyze

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

139) Ryan's Lazer Lighting Inc. produces lamps. During 2019, 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 cost of goods manufactured and sold statement.

Answer:

Ryan's Lazer Lighting, Inc.		
Cost of Goods Manufactured and Sold Statement		
For the Year Ended December 31, 2019		
Beginning Work-In-Process Inventory, January 1		\$ 20,000
Manufacturing costs during the year:		
Direct Materials:		
Beginning Inventory, January 1	\$100,000	
Add Purchases	600,000	
Total Direct Materials Available	\$700,000	
Less Ending Inventory, December 31	75,000	
Direct Materials Put Into Production		\$625,000
Direct Labor		425,000
Manufacturing Overhead		
Indirect Materials	\$150,000	
Factory Utilities	50,000	
Indirect Labor	90,000	
Factory Rent	80,000	
Total Manufacturing Overhead		370,000
Total Manufacturing Costs incurred during the year		\$1,420,000
Total Work-In-Process during the year		\$1,420,000
Less Ending Work-in-Process Inventory, December 31		10,000
Cost of Goods Manufactured		\$1,430,000
Beginning Finished Goods Inventory, January 1		250,000
Total Goods Available for Sale		1,680,000
Less Ending Finished Goods Inventory, December 31		215,000
Cost of Goods Sold		\$1,465,000

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements

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

Bloom's: Apply

AACSB: Reflective Thinking

Accessibility: Keyboard Navigation

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

Answer: 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 expenses—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.

Difficulty: 2 Medium

Topic: What is a Cost?

Learning Objective: 02-01 Explain the basic concept of "cost."

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: 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.

Difficulty: 2 Medium

Topic: What is a Cost?; Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.; 02-01 Explain the basic concept of "cost."

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: Direct materials inventory contains the raw materials (or the costs of the materials) that will be used in production. Work in process contains the products (or the accumulated costs) that have been started into production but are **not** yet completed. Finished goods contains the completed products (or the cost of it) that are **not** yet sold. Cost of goods sold contains the costs associated with the products that have been sold.

Difficulty: 2 Medium

Topic: Details of Manufacturing Cost Flows

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: Cost of goods manufactured consists of all the costs attached to the products completed during the period. Cost of goods manufactured is removed from the work in process inventory account and added to the finished goods inventory 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 inventory account and expensed on the income statement.

Difficulty: 2 Medium

Topic: How Costs Flow through the Statements

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

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

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

Answer: 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.

Difficulty: 2 Medium

Topic: Cost Allocation

Learning Objective: 02-03 Explain the process of cost allocation.

Bloom's: Understand

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

145) The following information applies to the Jamison Tools Company for the year ended December 31, 2019:

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, 2019.

Answer:

Jamison Tools Company		
Cost of Goods Manufactured Statement		
For the Year Ended December 31, 2019		
Beginning Work-In-Process Inventory, January 1		\$ 27,000
Manufacturing costs during the year:		
Direct Materials:		
Beginning Inventory, January 1	\$ 96,000	
Add Purchases	<u>654,000</u>	
Total Direct Materials Available	\$750,000	
Less Ending Inventory, December 31	<u>87,000</u>	
Direct Materials Put Into Production		\$663,000
Direct Labor		425,000
Manufacturing Overhead		
Factory Rent	\$330,000	
Plant Utilities	40,000	
Indirect Labor	28,000	
Indirect Materials	<u>66,000</u>	
Total Manufacturing Overhead		<u>464,000</u>
Total Manufacturing Costs incurred during the year		\$1,552,000
Total Work-In-Process during the year		\$1,579,000
Less Ending Work-in-Process Inventory, December 31		<u>33,000</u>
Cost of Goods Manufactured		<u>\$1,546,000</u>

Jamison Tools Company
Income Statement
For Year Ended December 31, 2019

Sales Revenue		\$2,550,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory (January 1)	\$ 25,000	
Cost of Goods Manufactured	1,546,000	
Ending Finished Goods Inventory (December 31)	(44,000)	
Cost of Goods Sold		1,527,000
Gross Margin		\$1,023,000
Selling and Administrative Expenses:		
Marketing Expenses	\$ 225,000	
Administrative expenses	101,350	
Total expenses		<u>326,350</u>
Operating profits		<u>\$ 696,650</u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

146) The following information applies to the Garden Master Company for the year ended December 31, 2019:

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, Beginning	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, 2019.

Answer:

Garden Master Company			
Cost of Goods Manufactured Statement			
For the Year Ended December 31, 2019			
Beginning Work-In-Process Inventory, January 1			\$ 50,000
Manufacturing costs during the year:			
Direct Materials:			
Beginning Inventory, January 1	\$ 50,000		
Add Purchases	325,000		
Total Direct Materials Available	\$375,000		
Less Ending Inventory, December 31	45,000		
Direct Materials Put Into Production		\$330,000	
Direct Labor		550,000	
Manufacturing Overhead			
Factory Rent	\$ 80,000		
Plant Utilities	25,000		
Indirect Labor	25,000		
Indirect Materials	50,000		
Total Manufacturing Overhead		180,000	
Total Manufacturing Costs incurred during the year			\$1,060,000
Total Work-In-Process during the year			\$1,110,000
Less Ending Work-in-Process Inventory, December 31			55,000
Cost of Goods Manufactured			<u>\$1,055,000</u>

Garden Master Company
Income Statement
For Year Ended December 31, 2019

Sales Revenue		\$1,825,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory (January 1)	\$ 50,000	
Cost of Goods Manufactured	1,055,000	
Ending Finished Goods Inventory (December 31)	(75,000)	
Cost of Goods Sold		1,030,000
Gross Margin		795,000
Selling and Administrative Expenses:		
Marketing Expenses	\$ 180,000	
General and Administrative	130,000	
Total expenses		<u>310,000</u>
Operating profits		<u>\$ 485,000</u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

147) Michael Corporation has provided the following data for the month of July:

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

Inventories:

	Beginning	Ending
Raw materials	\$ 22,000	\$ 33,000
Work-in-process	15,000	23,000
Finished good	52,000	43,000

Required:

- Prepare a Statement of Cost of Goods Manufactured in good form for July.
- Prepare an Income Statement in good form for July.

Answer:

a.

Statement of Cost of Goods Manufactured for July

Michael Corporation			
Cost of Goods Manufactured Statement			
For the Month Ended July 31			
Beginning Work-In-Process Inventory, July 1		\$	15,000
Manufacturing costs during the year:			
Direct Materials:			
Beginning Inventory, July 1	\$22,000		
Add Purchases	<u>76,000</u>		
Total Direct Materials Available	98,000		
Less Ending Inventory, July 31	<u>33,000</u>		
Direct Materials Put Into Production		\$65,000	
Direct labor		42,000	
Manufacturing overhead		<u>77,000</u>	
Total Manufacturing Costs incurred during the year			\$ 184,000
Total Work-In-Process during the year			199,000
Less Ending Work-in-Process Inventory, July 31			<u>23,000</u>
Cost of goods manufactured			<u>\$ 176,000</u>

b.

Income Statement for July

Michael Corporation		
Income Statement		
For the Month Ended July 31		
Sales Revenue		\$280,000
Cost of goods sold:		
Beginning Finished Goods Inventory (July 1)	\$ 52,000	
Cost of Goods Manufactured	176,000	
Ending Finished Goods Inventory (July 31)	<u>(43,000)</u>	
Cost of Goods Sold		185,000
Gross margin		95,000
Selling and Administrative Expenses:		
Selling expenses	20,000	
Administrative expenses	<u>35,000</u>	
Total expenses		<u>55,000</u>
Operating profits		<u>\$ 40,000</u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

148) The following information is available for the Crossover Company:

Sales: 25,000 units per year at \$45 per unit

Production: 30,000 units in 2019 and 20,000 units in 2020

At the beginning of 2019 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 a gross margin income statement under absorption costing for 2019 and 2020.

Include a column for each year and a total column.

(b) Prepare a contribution margin income statement under variable costing for 2019 and 2020.

Include a column for each year and a total column.

(c) Comment on the results and reconcile any differences in income.

Answer:

(a)

Crossover Company Gross Margin Income Statement (Absorption Costing)			
	2019	2020	Total
Sales (25,000 × \$45)	\$ 1,125,000	\$ 1,125,000	\$ 2,250,000
Cost of Goods Sold:			
Beginning Inventory	\$ 0	175,000	\$ 0
Current Production			
2019: (\$30 variable + \$5			
fixed) × 30,000);			
2020: (\$30 variable +			
\$7.50 fixed) × 20,000)	1,050,000	750,000	
Ending Inventory (30,000			
– 25,000) × \$35)	(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)

Crossover Company Contribution Margin Income Statement (Variable Costing)			
	2019	2020	Total
Sales (25,000 × \$45)	\$ 1,125,000	\$ 1,125,000	\$ 2,250,000
Variable Costs (25,000 × \$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 2019, production exceeded sales by 5,000 units. \$25,000 of fixed manufacturing costs ($\$150,000/30,000 = \5 per unit $\times$ 5,000 units) are inventoried under absorption costing but expensed under variable costing. This gives the appearance of a higher profit in 2019 for absorption costing. In 2020, the sales exceeded production. The inventoried costs from 2019 flow through to cost of goods sold in 2020 under absorption costing. These same costs had already been expensed in 2019 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 2020.

Difficulty: 3 Hard

Topic: Components of Product Costs; How to Make Cost Information More Useful to Managers

Learning Objective: 02-06 Identify the components of a product's costs.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

149) Razor Corporation produces and sells a single product at \$40 per unit. During 2019, 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 costing 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.

Answer:

- (a) \$6.75 $[(\$550,000 + \$400,000 + \$100,000 + \$300,000) / 200,000 = \$6.75]$
 (b) \$5.25 $[(\$550,000 + \$400,000 + \$100,000) / 200,000 = \$5.25]$
 (c) \$5,050,000 $[(\text{Sales } \$6,400,000) - \text{COGS } (\$1,080,000) - \text{Marketing } (\$270,000)]$
 (d) \$4,990,000 $[(\text{Sales } \$6,400,000) - \text{Variable cost of goods sold } (\$840,000) - \text{Fixed overhead } (\$300,000) - \text{Marketing } (\$270,000)]$
 (e) \$270,000 $[(40,000 \text{ units} \times \$6.75)]$
 (f) \$210,000 $[(40,000 \text{ units} \times \$5.25)]$
 (g)

Operating income, absorption costing	\$5,050,000
Operating income, variable costing	<u>4,990,000</u>
Excess of absorption operating income over variable operating income	\$60,000

Fixed manufacturing overhead:	=	\$300,000	= \$1.50 per unit
Units produced		200,000	

Change in inventory	Fixed Overhead Rate	Difference in Fixed Overhead Expensed (variable costing)
40,000 units	$\times \$1.50$	$= \$60,000$

Difficulty: 3 Hard

Topic: How to Make Cost Information More Useful to Managers

Learning Objective: 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

150) Consider the following cost and production information for Barnard Steel Building Company, Inc.

Quantity	Part C-2472 144		Part D-1340 120		All other parts 1140	
	Subtotal	Average/unit	Subtotal	Average/unit	Subtotal	Average/unit
Variable costs:						
Material costs	\$ 180,000	\$ 1,250	\$ 405,000	\$ 3,375	\$ 2,446,440	\$ 2,146
Conversion costs	72,000	500	129,000	1,075	974,700	855
Total variable costs	\$ 252,000	\$ 1,750	\$ 534,000	\$ 4,450	\$ 3,421,140	\$ 3,001
Fixed costs:						
Fixed production costs	885,600	6,150	738,000	6,150	7,011,000	6,150
Fixed operating costs	723,600	5,025	603,000	5,025	5,728,480	5,025
Total fixed 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 materials cost due to increased production. All other spending as shown above was unchanged.

Barnard Steel Building Company uses the variable costing method.

Required:

- (a) Compute the (1) contribution margin, (2) operating income, and (3) ending inventory for Barnard Steel Building Company.
- (b) Assume that sales of part D-1340 increase by 30 units to 110 units during the given period (production remains constant). Re-compute the above amounts.
- (c) Jaime Porter, the controller of Barnard Steel Building 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.

Answer:

(a)

Sales revenue		\$ 20,000,000
Variable cost of goods sold:		
Materials cost	\$ 2,896,440	
Conversion cost	1,132,700	\$ 4,029,140
Contribution margin (1):		<u>\$ 15,970,860</u>
Fixed expenses:		
Fixed production costs:	8,634,600	
Fixed operating costs:	7,055,080	\$ 15,689,680
Operating income (2):		<u>\$ 281,180</u>
Inventory:		
Beginning inventory:	\$ 1,150,000	
+ Variable cost of goods manufactured:	4,207,140	
– Variable Cost of goods sold:	4,029,140	
Ending inventory (3)	<u>\$ 1,328,000</u>	

Note: Variable cost of goods sold is based on 144 units of part C-2472, 80 units of part D-1340 and 1,140 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 × variable cost per unit of \$4,450.

(b)

Sales revenue		\$ 21,065,000
Variable cost of goods sold:		
Materials cost	\$ 2,997,690	
Conversion cost	1,164,950	\$ 4,162,640
Contribution margin (1):		<u>\$ 16,902,360</u>
Fixed expense:		
Fixed production costs:	8,634,600	
Fixed operating costs:	7,055,080	\$ 15,689,680
Operating income (2):		<u>\$ 1,212,680</u>
Inventory:		
Beginning inventory:	\$ 1,150,000	
+ Variable Cost of goods manufactured:	4,207,140	
- Variable Cost of goods sold:	4,162,140	
Ending inventory (3)	<u>\$ 1,194,500</u>	

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?

- The determination of product and period costs varies depending on the costing approach used. Absorption costing includes all fixed and variable manufacturing costs as product costs, whereas, variable costing only includes variable manufacturing costs as product costs. Fixed manufacturing overhead costs are expensed in the period they are incurred.
- Timing is a major reason for different income amounts. A cost may be accounted for as an asset or an expense. If the cost is recorded as an asset, it doesn't become an expense on the income statement until the asset has been consumed.
- Producing more units in a period than sold can also result in different income amounts. Under absorption costing the fixed manufacturing overhead costs for unsold units are included in inventory on the balance sheet and moved to cost of goods sold on the income statement when the units are sold. Under variable costing; however, fixed manufacturing overhead costs are expensed as incurred.

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 interest of the company.
- Absorption costing and, also variable costing to some extent, will motivate managers to produce more in order to reduce the average costs.

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

151) Consider the following cost and production information for Darrell Building Components, Inc.

Quantity	Part C-1849 72		Part D-1251 60		All other parts 570	
	Subtotal	Average/unit	Subtotal	Average/unit	Subtotal	Average/unit
Variable costs:						
Material costs	\$ 45,000	\$ 625	\$ 101,400	\$ 1,690	\$ 611,610	\$ 1,073
Conversion costs	18,000	250	32,400	540	243,960	428
Total variable costs	\$ 63,000	\$ 875	\$ 133,800	\$ 2,230	\$ 855,570	\$ 1,501
Fixed costs:						
Fixed production costs	221,400	3,075	184,500	3,075	1,752,750	3,075
Fixed operating costs	181,080	2,515	150,900	2,515	1,433,550	2,515
Total fixed 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 materials 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.

Darrell Building Components, Inc. uses the absorption costing method.

Required:

- (a) Compute the (1) gross margin, (2) operating income, and (3) ending inventory for Darrell Building 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 amounts.
- (c) Thane Smith, the cost manager of Darrell Building 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 Darrell Building Components using variable costing. Explain any differences in the operating incomes obtained under the two different methods.

Answer:

(a)

Sales revenue		\$ 5,200,000
Absorption cost goods sold:		
Materials cost	\$ 758,010	
Variable conversion cost	294,360	
Fixed manufacturing cost	<u>2,158,650</u>	<u>\$ 3,211,020</u>
Gross margin (1)		\$ 1,988,980
Operating expense:		
Fixed operating costs	1,765,530	<u>\$ 1,765,530</u>
Operating income (2)		<u>\$ 223,450</u>
Inventory:		
Beginning inventory	\$ 275,000	
+ Cost of goods manufactured	3,211,020	
- Cost of goods sold	<u>3,211,020</u>	
Ending inventory (3)	<u>\$ 275,000</u>	

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 goods sold:		
Materials:	\$ 758,010	
Variable conversion:	294,360	
Fixed manufacturing:	<u>2,071,384</u>	<u>\$ 3,123,754</u>
Gross margin:		\$ 1,988,980
Operating expense:		
Fixed operating costs:	1,765,530	<u>\$ 1,765,530</u>
Operating income:		<u><u>\$ 310,716</u></u>

Inventory:

Beginning inventory:	\$ 275,000	
		(increase 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 manufactured:	3,253,270	
– Cost of goods sold:	3,123,754	
Ending inventory	<u>\$ 404,516</u>	

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. Fixed manufacturing cost has changed from \$2,158,650 to \$2,071,384 as follows:

$\$2,158,650 - \$13,500 = \$2,145,150$; $\$2,145,150 / 727 \text{ units} = \$2,950.69 \text{ per unit}$; $= \$2,950.69 \times 702 \text{ units} = \$2,071,384$.

The amount of \$13,500 is the variable conversion cost assigned to the 25 additional units of part D-1251 that are produced ($\$540 \times 25 \text{ units} = \$13,500$); this amount is deducted from fixed manufacturing costs.

(c)

Sales revenue \$ 5,200,000

Variable cost of goods sold:

Materials cost \$ 758,010

Conversion cost 294,360 \$ 1,052,370

Contribution margin \$ 4,147,630

Fixed expense:

Fixed manufacturing costs: 2,145,150

Fixed operating costs: 1,765,530 \$ 3,910,680

Operating income \$ 236,950

Inventory:

Beginning inventory: 275,000

(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 manufactured: 1,108,120

– 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. Fixed manufacturing costs 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 ($\$540 \times 25 \text{ units} = \$13,500$); this amount is deducted from fixed manufacturing costs.

The difference in operating income from the use of variable versus absorption costing is \$73,766, which comes entirely from the amount of fixed production costs considered in the two methods ($\$2,145,150 - \$2,071,384$). Under absorption costing, this amount is carried to inventory as the fixed manufacturing costs for the 25 additional units produced ($\$2,145,150 / 727 \text{ units} = \$2,950.69$; $\$2,950.69 \times 25 \text{ units} = \$73,767$).

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

152) Hurwitz Corporation had the following activities during 2019:

Raw Materials:

Inventory, Jan. 1, 2019	\$ 200,000
Purchases of Raw Materials	318,000
Inventory, Dec. 31, 2019	210,000
Direct Manufacturing Labor	180,000
Plant Utilities	50,000
Plant and Equipment Depreciation	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, Dec. 31, 2019	120,000
Work-in-process Inventory, Jan. 1, 2019	64,000
Finished Goods Inventory, Jan. 1, 2019	80,000
Finished Goods Inventory, Dec. 31, 2019	150,000

Required:

- (a) Prepare a schedule of cost of goods manufactured for 2019.
- (b) Prepare a schedule of cost of goods sold for 2019.
- (c) Prepare an income statement for 2019.

Answer:

(a)

Hurwitz Corporation
Cost of Goods Manufactured Statement
For the Year Ended December 31, 2019

Beginning Work-in-Process Inventory, January 1		\$ 64,000
Manufacturing costs during the year:		
Direct Materials:		
Beginning Inventory, January 1	\$ 200,000	
Add Purchases	318,000	
Total Direct Materials Available	<u>\$ 518,000</u>	
Less Ending Inventory, December 31	<u>210,000</u>	
Direct Materials Put Into Production		\$ 308,000
Direct Labor		180,000
Manufacturing Overhead:		
Plant Utilities	\$ 50,000	
Plant and Equipment Depreciation	40,000	
Indirect Materials	30,000	
Indirect Labor	150,000	
Other Manufacturing Overhead	<u>60,000</u>	
Total Manufacturing Overhead Costs	<u>330,000</u>	
Total Manufacturing Costs Incurred During the Year		\$ 818,000
Total Work-in-Process During the Year		\$ 882,000
Less Ending Work-in-Process Inventory, December 31		<u>120,000</u>
Cost of Goods Manufactured		<u>\$ 762,000</u>

(b)

Hurwitz Corporation
Statement of Cost of Goods Sold
For the Year Ended December 31, 2019

Beginning Finished Goods Inventory, January 1	\$ 80,000
Cost of Goods Manufactured	<u>762,000</u>
Total Goods Available for Sale	\$ 842,000
Ending Finished Goods Inventory, December 31	<u>(150,000)</u>
Cost of Goods Sold	<u>\$ 692,000</u>

(c)

Hurwitz Corporation
Income Statement
For Year Ended December 31, 2019

Sales Revenue	\$ 1,250,000
Cost of Goods Sold	692,000
Gross Margin	<u>558,000</u>
Selling and Administrative Expenses	<u>150,000</u>
Income Before Income Taxes	408,000
Income Tax Expense	<u>122,400</u>
Net Income	<u>\$ 285,600</u>

Difficulty: 3 Hard

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Analyze

AACSB: Analytical Thinking

Accessibility: Keyboard Navigation

153) Styling Toys, Inc. (STI) 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.

Samantha Marks, the CEO of STI also recognizes that competition has increased during this period; therefore future growth will **not** be easy.

Marks recognizes that one of the areas of weakness is the accounting and costing system. Marks' maternal uncle, Zack, 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 Zack passing away at the age of 85, Marks decided to hire a professional cost management expert to keep track of the company's costs. She hired Dona FalconWright, who had just completed her CMA.

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

Marks: Dona, 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 sales to our rivals.

Falcon: I understand your point very well, Ms. Marks.

Marks: Call me Sam.

Falcon: Very well, Sam. 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 Dona Falcon. 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

Answer: 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

Difficulty: 2 Medium

Topic: How Costs Flow through the Statements; How to Make Cost Information More Useful to Managers

Learning Objective: 02-04 Understand how material, labor, and overhead costs are added to a product at each stage of the production process.; 02-07 Understand the distinction between financial and contribution margin income statements.

Bloom's: Understand

AACSB: Communication

Accessibility: Keyboard Navigation