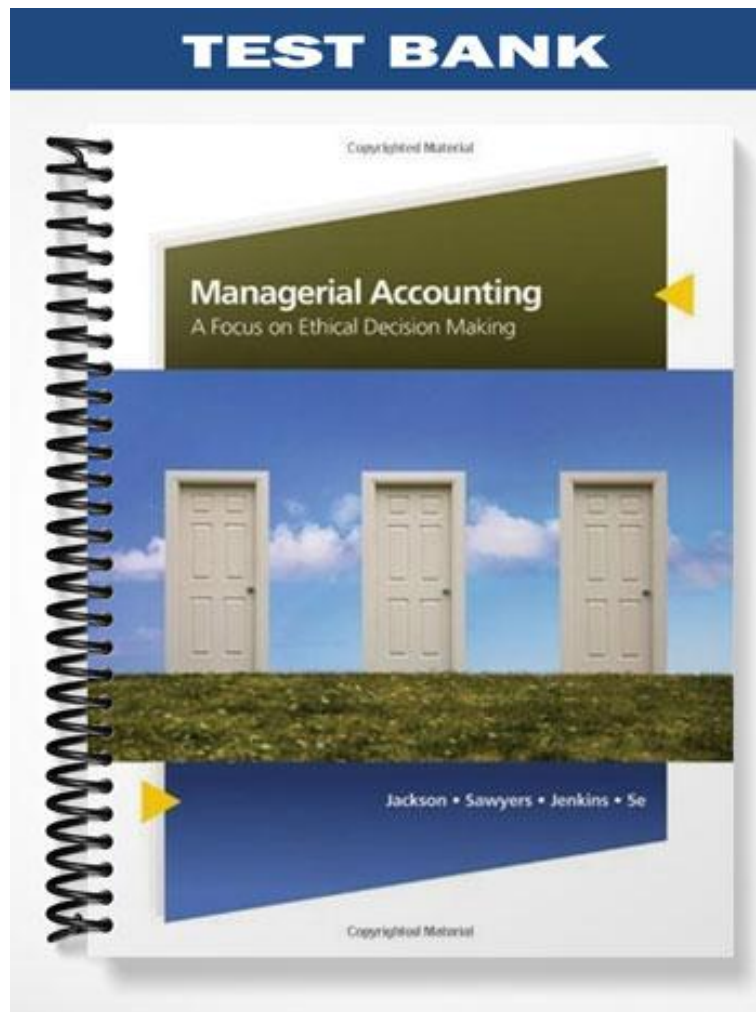


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## Managerial Accounting

A Focus on Ethical Decision Making

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# Chapter 3--Product Costing: Manufacturing Processes, Cost Terminology, and Cost Flows

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

1. Which of the following types of organizations is *most* likely to have a raw materials inventory account?

- A. Retailer
- B. Manufacturer
- C. Service provider
- D. Governmental unit

2. Which of the following statements about manufacturing in a traditional environment is *true*?

- A. Factories are organized so that machines that are dissimilar are grouped together.
- B. It is not desirable for extra raw materials inventory to be on hand.
- C. The process begins with a customer order and products are "pulled" through the manufacturing process.
- D. Partially completed inventory is accumulated in a work-in-process inventory account.

3. A traditional manufacturing environment does *not* have which of the following?

- A. An automated production process
- B. Trained employees
- C. Extremely low levels of work-in-process inventory
- D. Product cost information available

4. Which of the following statements is *true* about manufacturing companies over the past 20 years?

- A. The grouping of machines into "manufacturing cells" has increased.
- B. Carrying large amounts of inventory is often less costly than carrying small amounts of inventory.
- C. They have moved from a "pull" approach to more of a "push" approach.
- D. The basic production process has changed very little over the past 20 years.

5. Which of the following statements regarding the traditional manufacturing environment is *not* true?

- A. Machines are often put into "manufacturing cells" whereby dissimilar machines are grouped together.
- B. Raw material is "pushed" to the next production area in anticipation of customer demand.
- C. Manufacturers often have raw material, work-in-process, and finished goods inventory on hand.
- D. Buffers of inventory may result in workers being less efficient.

6. Lean production is focused on eliminating waste associated with all of the following *except*
- A. moving products further than is required.
  - B. down time caused by people waiting for work to do.
  - C. providing excessive customer service.
  - D. over-processing a product.
7. Under ideal conditions, companies operating in a \_\_\_\_ environment would reduce inventories of raw materials, work-in-process and finished goods to very low levels or even zero.
- A. service
  - B. just-in-time
  - C. traditional manufacturing
  - D. merchandising
8. Companies that operate in a lean production and just-in-time manufacturing environment are more likely to experience which of the following?
- A. Reduced manufacturing flexibility
  - B. Increased levels of raw materials inventory
  - C. Increased production time
  - D. Increased product quality
9. A "manufacturing cell" is defined as a(n):
- A. grouping of most of the machinery and equipment needed to make a product being available in one area of the factory.
  - B. grouping of the factory into areas where machinery and equipment of the same exact type are grouped together.
  - C. area in the raw materials storeroom where similar raw materials are grouped together.
  - D. area in the finished goods storeroom where similar finished goods are grouped together.
10. In a just-in-time environment, the production process often *begins* when:
- A. products are moved from raw materials to work-in-process.
  - B. a customer places an order.
  - C. the product is delivered to a customer.
  - D. products are moved from work-in-process to finished goods.
11. Which of the following is an *advantage* of lean production and just-in-time (JIT) manufacturing systems?
- A. If factory workers go on strike, the company can still deliver the product to the customer on time.
  - B. The quality of the product is often improved.
  - C. Less-skilled employees making a lower wage will replace higher paid employees.
  - D. An increase in the production time to make a product.

12. Which of the following is a *disadvantage* of lean production and just-in-time (JIT) manufacturing systems?

- A. Increased customer delivery time
- B. Increased product defects
- C. Decreased flexibility of manufacturing facilities
- D. Increased reliance on fewer suppliers

13. Which of the following statements is *true* regarding the lean production and just-in-time (JIT) manufacturing systems?

- A. Customers are often less satisfied with the purchased product.
- B. The number of product defects often increases.
- C. The number of suppliers the company can purchase raw materials from often increases.
- D. The factory is often restructured where dissimilar machines are grouped together.

14. Which of the following is an advantage of the lean production and just-in-time (JIT) manufacturing systems?

- A. Reduced reliance on a select number of suppliers
- B. Increased inventory levels in case of unpredicted customer demand
- C. Reduced reliance on highly skilled employees
- D. Reduced product defects

15. Which of the following is a characteristic of a lean production and just-in-time (JIT) manufacturing environment but *not* of a traditional manufacturing environment?

- A. Increased inventory levels
- B. Increased product defects
- C. Increased reliance on a select number of suppliers
- D. Increased production time

16. Which of the following is a characteristic of a traditional production environment but *not* of a lean production and just-in-time (JIT) manufacturing environment?

- A. Increase in the need for highly skilled labor
- B. Increase in the need for highly reliable suppliers
- C. Reduction in the motivation of the work force
- D. Reduction in the amount of time it takes to produce a product

17. Which of the following is a risk that would *more* likely be seen in a lean production and just-in-time manufacturing environment than in a traditional production environment?
- A. Reduced customer satisfaction due to higher product defects
  - B. Reduced raw material supply bringing the production process to a halt
  - C. Increased inventory storage costs
  - D. Increased production time resulting in lost sales
18. Which of the following is *not* a type of manufacturing cost?
- A. Direct material costs
  - B. Administrative costs
  - C. Factory overhead costs
  - D. Direct labor costs
19. In general, costs incurred in the factory that do not qualify as either direct material or direct labor are called:
- A. manufacturing costs.
  - B. manufacturing overhead.
  - C. nonmanufacturing costs.
  - D. selling and administrative costs.
20. Manufacturing costs typically consist of:
- A. direct materials, direct labor, and administrative costs.
  - B. production and shipping costs.
  - C. direct materials, direct labor, and manufacturing overhead.
  - D. manufacturing overhead and selling costs.
21. Materials that can be directly traced to a particular product and become an integral part of the finished product are called:
- A. indirect materials.
  - B. direct materials.
  - C. supplies.
  - D. product materials.
22. Which of the following statements is *true* regarding manufacturing costs?
- A. They will appear on the income statement as the product is made.
  - B. They will not appear on the income statement or the balance sheet until the product is completed.
  - C. They will appear on the balance sheet as an inventory cost until the product is sold.
  - D. They will appear on the balance sheet as an inventory cost after the product is sold.

23. Which of the following statements is *false* regarding nonmanufacturing costs?

- A. They are incurred outside the factory.
- B. They include selling and administrative costs.
- C. They are not directly incurred to make a product.
- D. They include indirect materials and indirect labor costs.

24. Which of the following would most likely be classified as indirect materials?

- A. Wood used to build a customized bookshelf
- B. Lubricants used on factory machinery
- C. Supplies used by the administrative employees
- D. Packing pellets used for shipping products to customers

25. Which of the following types of employees would most likely have their wage be classified as direct labor?

- A. Factory maintenance worker
- B. Factory supervisor
- C. Managerial accountant
- D. Assembly-line factory worker

26. Which of the following types of employees would most likely have their wage be classified as indirect labor?

- A. Factory supervisor
- B. Managerial accountant
- C. Salesperson
- D. Machine operator

27. Manufacturing overhead includes:

- A. advertising costs.
- B. indirect materials.
- C. sales commissions.
- D. shipping charges for finished goods.

28. Which of the following is *not* an example of a manufacturing overhead cost?

- A. Shipping charges on finished products
- B. Indirect materials
- C. Indirect labor
- D. Depreciation on factory equipment

29. Which of the following is an example of a manufacturing overhead cost?

- A. Supplies used by administrative staff
- B. Supplies used by a salesperson
- C. Materials easily traced to a specific product
- D. Lubricants used by factory maintenance workers

30. Which of the following is *not* an example of manufacturing overhead costs?

- A. Fringe benefits paid to assembly-line workers
- B. Depreciation of factory machinery
- C. Overtime pay to factory supervisors
- D. Insurance on factory machinery

31. Which of the following is a product cost?

- A. Insurance on factory machinery
- B. Insurance on delivery trucks
- C. Lease expense on office computer
- D. Advertising costs

### 32. Jasper Corporation

Jasper Corporation incurred the following costs in April:

Salesperson's salaries	\$40,000	Factory maintenance worker	\$20,000
Factory insurance	12,000	Administrative utilities	4,000
Factory supervisor salary	30,000	Administrative supplies	1,000
Advertising	15,000	Delivery truck insurance	2,000
Factory machine operator	22,000	Factory machine depreciation	6,000
Direct materials used	25,000	Receptionist salary	18,000

Refer to the Jasper Corporation information above. Total product costs are:

- A. \$130,000
- B. \$155,000
- C. \$115,000
- D. \$117,000

### 33. Jasper Corporation

Jasper Corporation incurred the following costs in April:

Salesperson's salaries	\$40,000	Factory maintenance worker	\$20,000
Factory insurance	12,000	Administrative utilities	4,000
Factory supervisor salary	30,000	Administrative supplies	1,000
Advertising	15,000	Delivery truck insurance	2,000
Factory machine operator	22,000	Factory machine depreciation	6,000
Direct materials used	25,000	Receptionist salary	18,000

Refer to the Jasper Corporation information above. Total period costs are:

- A. \$86,000
- B. \$38,000
- C. \$40,000
- D. \$80,000

34. The type of costing that takes into account costs incurred by all the activities throughout a product's entire life is called:

- A. life-cycle costing.
- B. value-chain costing.
- C. full-costing.
- D. complete-costing.

35. The set of activities that increases the value of an organization's products and services is called the:

- A. activity chain.
- B. value chain.
- C. profit chain.
- D. life chain.

36. Which of the following statements regarding life-cycle and/or product costing is true?

- A. Life-cycle costing is confined to direct materials, direct labor, and manufacturing overhead.
- B. Life-cycle costing would include research and development costs, advertising costs, and shipping costs.
- C. Product costing would include marketing and distribution costs.
- D. Product costing would include research and development costs, direct materials, direct labor, and manufacturing overhead.

37. Which of the following is an "upstream cost" in the value chain?

- A. Advertising costs
- B. Sales staff salaries
- C. Shipping costs
- D. Research and development costs

38. Which of the following is a "downstream cost" in the value chain?

- A. Research costs
- B. Shipping costs
- C. Production costs
- D. Product design costs



39. Products and their costs flow through a production facility in the following order:

- A. Work-in-process, finished goods, cost of goods sold
- B. Raw materials, work-in-process, finished goods, cost of goods sold
- C. Work-in-process, raw materials, cost of goods sold, finished goods
- D. Work-in-process, cost of goods manufactured, cost of goods sold

40. Which of the following *increases* the work-in-process account?

- A. Cost of goods sold
- B. Raw material purchased
- C. Administrative costs
- D. Raw material used

41. Which of the following *decreases* the work-in-process account?

- A. Raw materials used
- B. Cost of goods manufactured
- C. Direct labor
- D. Manufacturing overhead

42. Product costs that transfer into finished goods inventory are called:

- A. cost of goods manufactured.
- B. cost of goods sold.
- C. period costs.
- D. raw materials used.

43. Product costs that transfer out of finished goods are called:

- A. work-in-process.
- B. cost of goods manufactured.
- C. cost of goods sold.
- D. period costs.

44. Which of the following statements accurately describes manufacturing cost flows in a just-in-time (JIT) environment?

- A. Direct labor and overhead are maintained in a work-in-process account for long periods of time.
- B. There is little need to maintain a cost of goods sold account.
- C. There is little need to maintain raw materials, work-in-process, or finished goods accounts.
- D. Manufacturing costs are maintained in the finished goods account for long periods of time.

45. Which of the following types of companies would be the *least* likely to have the following cost pattern?

Raw materials ® Work-in-Process ® Finished Goods ® Cost of goods sold

- A. Tire manufacturer
- B. Computer software manufacturer
- C. Retailer/merchandiser
- D. Construction company

46. Clyde Retailer's is a local merchandiser which buys vintage clothing and sells it to local college students. Clyde began the year with inventory costing \$60,000. During the year inventory costing \$300,000 was purchased. At the end of the year, inventory costing \$45,000 still remained. What was Clyde's cost of goods sold for the year?

- A. \$255,000
- B. \$285,000
- C. \$300,000
- D. \$315,000

47. The journal entry to record raw materials used would include a:

- A. debit to finished goods.
- B. debit to raw materials.
- C. debit to work-in-process.
- D. debit to cost of goods sold.

48. In 2009 Bradshaw Inc. incurred \$40,000 of manufacturing overhead costs which will be paid for in 2010. Which of the following would be the correct journal entry to record this transaction?

- |                              |        |        |
|------------------------------|--------|--------|
| A. Cost of goods sold        | 40,000 |        |
| Accounts payable             |        | 40,000 |
| B. Inventory                 | 40,000 |        |
| Accounts payable             |        | 40,000 |
| C. Overhead expenses         | 40,000 |        |
| Accounts payable             |        | 40,000 |
| D. Work-in-process inventory | 40,000 |        |
| Accounts payable             |        | 40,000 |

49. The journal entry to record cost of goods manufactured would include a:

- A. credit to work-in-process.
- B. credit to finished goods.
- C. debit to work-in-process.
- D. debit to cost of goods sold.

50. When the cost of a product is matched with its sales price, the result (difference) is called:

- A. net income.
- B. gross margin.
- C. cost of goods sold.
- D. cost of goods manufactured.

51. When nonmanufacturing costs are subtracted from gross margin, the result is called:

- A. cost of goods sold.
- B. net income.
- C. sales.
- D. nonmanufacturing income.

**52. Michael's Manufacturing, Inc.**

Michael's Manufacturing, Inc. has the following information available for the month of July:

	Beginning	Ending
Raw materials inventory	\$50,000	\$ 62,000
Work-in-process inventory	80,000	55,000
Finished goods inventory	24,000	35,000
Raw materials purchased		\$120,000
Direct labor costs		60,000
Overhead costs		45,000

Refer to the Michael's Manufacturing, Inc. information above. Raw materials used for July is:

- A. \$112,000
- B. \$108,000
- C. \$120,000
- D. \$132,000

**53. Michael's Manufacturing, Inc.**

Michael's Manufacturing, Inc. has the following information available for the month of July:

	Beginning	Ending
Raw materials inventory	\$50,000	\$ 62,000
Work-in-process inventory	80,000	55,000
Finished goods inventory	24,000	35,000
Raw materials purchased		\$120,000
Direct labor costs		60,000
Overhead costs		45,000

Refer to the Michael's Manufacturing, Inc. information above. Cost of goods manufactured for July is:

- A. \$188,000
- B. \$250,000
- C. \$238,000
- D. \$213,000

**54. Michael's Manufacturing, Inc.**

Michael's Manufacturing, Inc. has the following information available for the month of July:

	Beginning	Ending
Raw materials inventory	\$50,000	\$ 62,000
Work-in-process inventory	80,000	55,000
Finished goods inventory	24,000	35,000
Raw materials purchased		\$120,000
Direct labor costs		60,000
Overhead costs		45,000

Refer to the Michael's Manufacturing, Inc. information above. Cost of goods sold for July is:

- A. \$227,000
- B. \$202,000
- C. \$249,000
- D. \$239,000

**55. Nate's Novelties, Inc.**

Nate's Novelties, Inc. has the following information available for July:

	Beginning	Ending
Raw materials inventory	\$12,000	\$ 9,000
Work-in-process inventory	35,000	20,000
Finished goods inventory	20,000	44,000
Raw materials purchased		\$25,000
Direct labor costs		55,000
Overhead costs		35,000

Refer to the Nate's Novelties, Inc. information above. Raw materials used for July is:

- A. \$21,000
- B. \$22,000
- C. \$25,000
- D. \$28,000

**56. Nate's Novelties, Inc.**

Nate's Novelties, Inc. has the following information available for July:

	Beginning	Ending
Raw materials inventory	\$12,000	\$ 9,000
Work-in-process inventory	35,000	20,000
Finished goods inventory	20,000	44,000
Raw materials purchased		\$25,000
Direct labor costs		55,000
Overhead costs		35,000

Refer to the Nate's Novelties, Inc. information above. Cost of goods manufactured for July is:

- A. \$153,000
- B. \$103,000
- C. \$130,000
- D. \$133,000

**57. Nate's Novelties, Inc.**

Nate's Novelties, Inc. has the following information available for July:

	Beginning	Ending
Raw materials inventory	\$12,000	\$ 9,000
Work-in-process inventory	35,000	20,000
Finished goods inventory	20,000	44,000
Raw materials purchased		\$25,000
Direct labor costs		55,000
Overhead costs		35,000

Refer to the Nate's Novelties, Inc. information above. Cost of goods sold for July is:

- A. \$106,000
- B. \$157,000
- C. \$129,000
- D. \$109,000

### 58. Scott Products

Scott Products manufactures high-quality running shoes. The following information is available for 2009:

	Beginning	Ending
Raw materials inventory	\$ 65,000	\$ 82,000
Work-in-process inventory	280,000	130,000
Finished goods inventory	90,000	120,000
Raw materials purchased		\$250,000
Direct labor costs		340,000
Factory rent		60,000
Factory supplies		20,000
Factory utilities		15,000
Factory depreciation		30,000
Marketing costs		25,000
Administrative costs		100,000

In addition, 42,400 pairs were produced in 2009 out of which 40,900 pairs were sold for \$70 each.

Refer to the Scott Products information above. Cost of goods manufactured for 2009 is:

- A. \$990,000
- B. \$973,000
- C. \$848,000
- D. \$865,000

### 59. Scott Products

Scott Products manufactures high-quality running shoes. The following information is available for 2009:

	Beginning	Ending
Raw materials inventory	\$ 65,000	\$ 82,000
Work-in-process inventory	280,000	130,000
Finished goods inventory	90,000	120,000
Raw materials purchased		\$250,000
Direct labor costs		340,000
Factory rent		60,000
Factory supplies		20,000
Factory utilities		15,000
Factory depreciation		30,000
Marketing costs		25,000
Administrative costs		100,000

In addition, 42,400 pairs were produced in 2009 out of which 40,900 pairs were sold for \$70 each.

Refer to the Scott Products information above. What is net income for 2009? (ignore taxes)

- A. \$1,920,000
- B. \$2,025,000
- C. \$1,890,000
- D. \$2,045,000

60. Thompson Inc. has the following selected information available for 2009:

Cost of goods manufactured	\$180,000
Cost of goods sold	150,000
Direct labor costs incurred	45,000
Raw material purchased	90,000
Raw material used	80,000
Beginning work-in-process	15,000
Ending work-in-process	9,000

Manufacturing overhead costs in 2005 amounted to:

- A. \$39,000
- B. \$55,000
- C. \$49,000
- D. \$31,000

**61. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. What is the product cost per unit?

- A. \$3.05
- B. \$2.75
- C. \$2.44
- D. \$2.20

**62. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. What is cost of goods sold for the year?

- A. \$ 88,000
- B. \$ 97,600
- C. \$122,000
- D. \$110,000

**63. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. Out of the above costs, what amount remains on the balance sheet at the end of 2009?

- A. \$12,000
- B. \$20,000
- C. \$22,000
- D. \$24,400

**64. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. What is net income for the year?

- A. \$278,000
- B. \$312,000
- C. \$378,000
- D. \$300,000



**65. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Total nonmanufacturing costs for September are:

- A. \$113,000
- B. \$161,000
- C. \$ 18,000
- D. \$ 43,000

**66. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Cost of goods manufactured for September is:

- A. \$118,000
- B. \$136,000
- C. \$115,000
- D. \$133,000

**67. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Cost of goods sold for September is:

- A. \$119,000
- B. \$143,000
- C. \$140,000
- D. \$122,000

**68. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Sales revenue for September totaled \$400,000. Net income for September is:

- A. \$257,000
- B. \$260,000
- C. \$264,000
- D. \$278,000

69. In a traditional manufacturing environment, as the cost of goods sold account increases, which account is most likely decreasing?

- A. Work-in-process inventory
- B. Finished goods inventory
- C. Raw materials inventory
- D. Cash

### 70. Jones Manufacturing Inc.

Jones Manufacturing Inc. incurred the following costs in November:

Direct labor	\$50,000	Advertising costs	\$ 3,000
Indirect labor	20,000	Factory rent	10,000
Administrative salaries	25,000	Factory depreciation	6,000
Direct materials purchased	23,000	Administrative rent	5,000
Indirect materials used	4,000	Administrative depreciation	7,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 5,000	\$ 8,000
Work-in-process	60,000	55,000
Finished goods	17,250	9,200
Number of units produced	20,000 units	
Number of units sold (sales price of \$25 per unit)	21,400 units	

Refer to the Jones Manufacturing Inc. information above. Cost of goods manufactured in November is:

- A. \$ 91,000
- B. \$115,000
- C. \$155,000
- D. \$143,000

### 71. Jones Manufacturing Inc.

Jones Manufacturing Inc. incurred the following costs in November:

Direct labor	\$50,000	Advertising costs	\$ 3,000
Indirect labor	20,000	Factory rent	10,000
Administrative salaries	25,000	Factory depreciation	6,000
Direct materials purchased	23,000	Administrative rent	5,000
Indirect materials used	4,000	Administrative depreciation	7,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 5,000	\$ 8,000
Work-in-process	60,000	55,000
Finished goods	17,250	9,200
Number of units produced	20,000 units	
Number of units sold (sales price of \$25 per unit)	21,400 units	

Refer to the Jones Manufacturing Inc. information above. The product cost per unit in November is:

- A. \$4.55
- B. \$7.75
- C. \$5.75
- D. \$5.37

**72. Jones Manufacturing Inc.**

Jones Manufacturing Inc. incurred the following costs in November:

Direct labor	\$50,000	Advertising costs	\$ 3,000
Indirect labor	20,000	Factory rent	10,000
Administrative salaries	25,000	Factory depreciation	6,000
Direct materials purchased	23,000	Administrative rent	5,000
Indirect materials used	4,000	Administrative depreciation	7,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 5,000	\$ 8,000
Work-in-process	60,000	55,000
Finished goods	17,250	9,200
Number of units produced	20,000 units	
Number of units sold		
(sales price of \$25 per unit)	21,400 units	

Refer to the Jones Manufacturing Inc. information above. Net income for November is: (ignore taxes)

- A. \$371,950
- B. \$411,950
- C. \$369,150
- D. \$382,000

**73. Johnson Manufacturing has the following selected information available for the year:**

Direct material purchased	\$ 40,000
Direct material used	45,000
Direct labor incurred	75,000
Manufacturing overhead incurred	50,000
Cost of goods manufactured	100,000

In addition, the cost of the finished goods inventory increased by \$10,000 from the beginning to the end of the year. Cost of goods sold for the year is:

- A. \$ 80,000
- B. \$170,000
- C. \$ 90,000
- D. \$110,000

74. Chancellor Industries, a manufacturing company, prepays its insurance coverage for a two-year period. The premium for two-year's worth of coverage is \$14,400 and is paid at the beginning of the first year. Two-thirds of the premium relates to factory operations and one-third relates to selling and administrative activities.

The amount of premium that should be recorded as a product cost for the first year is:

- A. \$ 4,800
- B. \$ 2,400
- C. \$ 9,600
- D. \$14,400

75. Clapton Inc. would like to prepare an income statement for March. Their production department records show that total product costs in March were \$225,000 when 50,000 units were produced. Their sales department records show that 46,000 units were sold for \$16 each. Monthly administrative and marketing expenses totaled \$60,000. What should be net income for March?

- A. \$529,000
- B. \$473,800
- C. \$451,000
- D. \$469,000

76. Which of the following statements is *true* regarding period costs?

- A. They "attach" themselves to the product.
- B. They will appear the balance sheet until the product is sold.
- C. They will appear on the income statement in the year they are incurred.
- D. They will not impact gross margin or net income.

### 77. Franklin Street Manufacturing

Franklin Street Manufacturing has the following cost information available for 2009:

Direct materials used	\$10,000
Direct labor costs	25,000
Factory overhead	20,000
Marketing expenses	4,000
Administrative expenses	6,000

20,000 units were produced during the year out of which 19,000 units were sold for \$10 each.

Refer to the Franklin Street Manufacturing information above. What is cost of goods sold for 2009?

- A. \$55,000
- B. \$52,250
- C. \$61,750
- D. \$65,000

### 78. Franklin Street Manufacturing

Franklin Street Manufacturing has the following cost information available for 2009:

Direct materials used	\$10,000
Direct labor costs	25,000
Factory overhead	20,000
Marketing expenses	4,000
Administrative expenses	6,000

20,000 units were produced during the year out of which 19,000 units were sold for \$10 each.

Refer to the Franklin Street Manufacturing information above. Out of the above costs, what amount remains on the balance sheet at the end of 2009?

- A. \$ 2,750
- B. \$12,750
- C. \$10,000
- D. \$ 3,250

### 79. Franklin Street Manufacturing

Franklin Street Manufacturing has the following cost information available for 2009:

Direct materials used	\$10,000
Direct labor costs	25,000
Factory overhead	20,000
Marketing expenses	4,000
Administrative expenses	6,000

20,000 units were produced during the year out of which 19,000 units were sold for \$10 each.

Refer to the Franklin Street Manufacturing information above. What is net income for 2009?

- A. \$127,750
- B. \$137,750
- C. \$125,000
- D. \$128,250

80. Brenda's Bakery has the following information available for October:

	Beginning		Ending
Raw materials	\$ 4,000		\$ 2,000
Work-in-process	32,000		17,000
Finished goods	5,000		3,000
	Cost of goods manufactured		88,000
	Cost of goods sold		90,000
	Direct labor costs		35,000
	Factory rent and depreciation		10,000
Selling expenses			3,000

How much raw material was *purchased* in October?

- A. \$23,000
- B. \$25,000
- C. \$26,000
- D. \$28,000

81. Provide specific examples of why accurate product or service costing information is important for internal purposes.

82. Briefly compare a traditional manufacturing environment with a lean production and just-in-time (JIT) manufacturing environment.

83. Describe the cost accumulation process in a traditional manufacturing environment versus a just-in-time (JIT) environment.

84. Identify at least two characteristics of a lean production and just-in-time (JIT) manufacturing environment.

85. Identify some of the benefits and risks of a lean production and just-in-time (JIT) environment.

86. Describe each of the following as either a *product* or *period* cost.

- |    |                               |    |                                              |
|----|-------------------------------|----|----------------------------------------------|
| a. | factory depreciation          | f. | direct materials                             |
| b. | indirect labor                | g. | indirect materials                           |
| c. | administrative salaries       | h. | advertising                                  |
| d. | direct labor                  | i. | factory insurance                            |
| e. | utilities used in the factory | j. | utilities used in the administrative offices |



87. Briefly describe the difference between a manufacturing and a nonmanufacturing cost.

88. Identify with an "X" the following costs as either a manufacturing (product) or nonmanufacturing (period) cost. If it is a manufacturing cost, further identify it as either direct material (DM), direct labor (DL), or overhead (OH).

Manufacturing Cost	Nonmanufacturing Cost		
	DM	DL	OH
Indirect labor			
Factory supplies			
Material easily traced to product			
Administrative salaries			
Factory rent			
Indirect materials			
Shipping costs			
Administrative building utilities			
Factory equipment depreciation			
Machine operator			

89. Indicate whether each of the following accounts would be found on the balance sheet (BS) or income statement (IS).

- |                    |                                        |
|--------------------|----------------------------------------|
| a. Work-in-process | d. Raw materials                       |
| b. Sales           | e. Cost of goods sold                  |
| c. Finished goods  | f. Selling and administrative expenses |

90. How does life-cycle costing differ from product costing?

91. Classify the following as either direct labor (DL), indirect labor (IL), or a period cost (P).

- a. factory maintenance worker
- b. company president
- c. assembly-line worker
- d. salesperson working on commission
- e. factory supervisor
- f. administrative assistant
- g. machine operator

92. Classify each of the following as either a direct material (DM), indirect material (IM), or period cost (P).

- a. wood used to build custom bookshelves
- b. sandpaper, glue, and nails used to build customer bookshelves.
- c. paper supplies used in the administrative offices.
- d. computer chips used in computer
- e. cleaning supplies used in the factory

93. Capital Manufacturing produces a unique souvenir product for various museums around the country. During the year, the company incurred the following costs:

Direct material used	\$50,000
Direct labor	80,000
Manufacturing overhead	30,000
Marketing expenses	10,000
Administrative expenses	20,000

During the year, 25,000 units were produced out of which 20,000 units were sold for \$15 each.

Required:

- A. Calculate the total product costs incurred for the year.
- B. What is the product cost per unit?
- C. What is cost of goods sold for the year?
- D. What is net income for the year?

94. McClintock Manufacturing Inc. has the following information available for the month of July:

	Beginning		End ing
Raw material s inventor y	\$12,000		\$ 8 ,000
Work-in -process inventor y	45,000		55,0 00
Finished goods inventor y	9,000		11,0 00
Raw material s purchase d			\$45, 000
Direct labor costs			80,0 00
Overhea d costs			30,0 00
	Selling and administrative costs		20,000

Required:

- A. Calculate raw materials used for July.
- B. Calculate cost of goods manufactured for July.
- C. Calculate cost of goods sold for July
- D. Assume that sales revenue totaled \$250,000, calculate net income for July. (ignore taxes)

95. Pearce Manufacturing Inc. incurred the following costs in February:

Direct labor	\$40,000	Advertising costs	\$1,000
Indirect labor	15,000	Factory rent	4,000
Administrative salaries	8,000	Factory depreciation	2,000
Raw materials purchased	10,000	Administrative rent	3,000
Indirect materials used	4,000	Administrative depreciation	1,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 2,000	\$ 4,000
Work-in-process	25,000	18,000
Finished goods	4,000	12,000
Number of units produced	10,000 units	
Number of units sold		
(sales price of \$25 per unit)	9,000 units	

Required:

- A. Calculate total period costs.
- B. Calculate raw materials used.
- C. Calculate cost of goods manufactured.
- D. Calculate the product cost per unit.
- E. Calculate cost of goods sold.
- F. Calculate net income. (ignore taxes)
- G. Calculate the remaining costs on the balance sheet at the end of February.

96. Creative Products Inc. incurred the following costs (in alphabetical order) during 2005 related to one of its products:

Administrative costs	\$ 2,000
Advertising costs	1,000
Direct material used	8,000
Direct labor	20,000
Factory equipment depreciation	1,000
Factory rent	5,000
Indirect labor	3,000
Indirect materials	2,000

During the year, 3,000 units were produced out of which 2,750 units were sold for \$30 each.

Required:

- A. Calculate the total product costs incurred for the year.
- B. What is the product cost per unit?
- C. What is cost of goods sold for the year?
- D. What is net income for the year?

97. The following information is available for the Brown Company for the month ended July 31:

Direct materials purchased	\$ 21,000
Direct labor (2,500 hrs@\$12)	30,000
Indirect labor	3,000
Indirect materials	2,500
Office supplies expense	100
Factory equipment depreciation	2,000
Office Equipment depreciation	750
Administrative expenses	20,000
Office utilities	75
Factory utilities	200
Marketing expense	2,500
Sales revenue	150,000
Sales commissions expense	1,500

	Beginning	Ending
Direct materials inventory	\$27,000	\$ 24,500
Work in process inventory	25,000	29,000
Finished Goods inventory	22,000	15,000

Required:

- A. Determine the direct materials used in July.
- B. Determine cost of goods manufactured in July.
- C. Determine cost of goods sold for July.
- D. Prepare an income statement for July. (ignore taxes)



# Chapter 3--Product Costing: Manufacturing Processes, Cost Terminology, and Cost Flows **Key**

1. Which of the following types of organizations is *most* likely to have a raw materials inventory account?

- A. Retailer
- B. Manufacturer**
- C. Service provider
- D. Governmental unit

2. Which of the following statements about manufacturing in a traditional environment is *true*?

- A. Factories are organized so that machines that are dissimilar are grouped together.
- B. It is not desirable for extra raw materials inventory to be on hand.
- C. The process begins with a customer order and products are "pulled" through the manufacturing process.
- D. Partially completed inventory is accumulated in a work-in-process inventory account.**

3. A traditional manufacturing environment does *not* have which of the following?

- A. An automated production process
- B. Trained employees
- C. Extremely low levels of work-in-process inventory**
- D. Product cost information available

4. Which of the following statements is *true* about manufacturing companies over the past 20 years?

- A. The grouping of machines into "manufacturing cells" has increased.**
- B. Carrying large amounts of inventory is often less costly than carrying small amounts of inventory.
- C. They have moved from a "pull" approach to more of a "push" approach.
- D. The basic production process has changed very little over the past 20 years.

5. Which of the following statements regarding the traditional manufacturing environment is *not* true?

- A. Machines are often put into "manufacturing cells" whereby dissimilar machines are grouped together.**
- B. Raw material is "pushed" to the next production area in anticipation of customer demand.
- C. Manufacturers often have raw material, work-in-process, and finished goods inventory on hand.
- D. Buffers of inventory may result in workers being less efficient.



6. Lean production is focused on eliminating waste associated with all of the following *except*
- A. moving products further than is required.
  - B. down time caused by people waiting for work to do.
  - C.** providing excessive customer service.
  - D. over-processing a product.
7. Under ideal conditions, companies operating in a \_\_\_\_ environment would reduce inventories of raw materials, work-in-process and finished goods to very low levels or even zero.
- A. service
  - B.** just-in-time
  - C. traditional manufacturing
  - D. merchandising
8. Companies that operate in a lean production and just-in-time manufacturing environment are more likely to experience which of the following?
- A. Reduced manufacturing flexibility
  - B. Increased levels of raw materials inventory
  - C. Increased production time
  - D.** Increased product quality
9. A "manufacturing cell" is defined as a(n):
- A.** grouping of most of the machinery and equipment needed to make a product being available in one area of the factory.
  - B. grouping of the factory into areas where machinery and equipment of the same exact type are grouped together.
  - C. area in the raw materials storeroom where similar raw materials are grouped together.
  - D. area in the finished goods storeroom where similar finished goods are grouped together.
10. In a just-in-time environment, the production process often *begins* when:
- A. products are moved from raw materials to work-in-process.
  - B.** a customer places an order.
  - C. the product is delivered to a customer.
  - D. products are moved from work-in-process to finished goods.
11. Which of the following is an *advantage* of lean production and just-in-time (JIT) manufacturing systems?
- A. If factory workers go on strike, the company can still deliver the product to the customer on time.
  - B.** The quality of the product is often improved.
  - C. Less-skilled employees making a lower wage will replace higher paid employees.
  - D. An increase in the production time to make a product.

12. Which of the following is a *disadvantage* of lean production and just-in-time (JIT) manufacturing systems?

- A. Increased customer delivery time
- B. Increased product defects
- C. Decreased flexibility of manufacturing facilities
- D.** Increased reliance on fewer suppliers

13. Which of the following statements is *true* regarding the lean production and just-in-time (JIT) manufacturing systems?

- A. Customers are often less satisfied with the purchased product.
- B. The number of product defects often increases.
- C. The number of suppliers the company can purchase raw materials from often increases.
- D.** The factory is often restructured where dissimilar machines are grouped together.

14. Which of the following is an advantage of the lean production and just-in-time (JIT) manufacturing systems?

- A. Reduced reliance on a select number of suppliers
- B. Increased inventory levels in case of unpredicted customer demand
- C. Reduced reliance on highly skilled employees
- D.** Reduced product defects

15. Which of the following is a characteristic of a lean production and just-in-time (JIT) manufacturing environment but *not* of a traditional manufacturing environment?

- A. Increased inventory levels
- B. Increased product defects
- C.** Increased reliance on a select number of suppliers
- D. Increased production time

16. Which of the following is a characteristic of a traditional production environment but *not* of a lean production and just-in-time (JIT) manufacturing environment?

- A. Increase in the need for highly skilled labor
- B. Increase in the need for highly reliable suppliers
- C.** Reduction in the motivation of the work force
- D. Reduction in the amount of time it takes to produce a product

17. Which of the following is a risk that would *more* likely be seen in a lean production and just-in-time manufacturing environment than in a traditional production environment?

- A. Reduced customer satisfaction due to higher product defects
- B.** Reduced raw material supply bringing the production process to a halt
- C. Increased inventory storage costs
- D. Increased production time resulting in lost sales

18. Which of the following is *not* a type of manufacturing cost?

- A. Direct material costs
- B.** Administrative costs
- C. Factory overhead costs
- D. Direct labor costs

19. In general, costs incurred in the factory that do not qualify as either direct material or direct labor are called:

- A. manufacturing costs.
- B.** manufacturing overhead.
- C. nonmanufacturing costs.
- D. selling and administrative costs.

20. Manufacturing costs typically consist of:

- A. direct materials, direct labor, and administrative costs.
- B. production and shipping costs.
- C.** direct materials, direct labor, and manufacturing overhead.
- D. manufacturing overhead and selling costs.

21. Materials that can be directly traced to a particular product and become an integral part of the finished product are called:

- A. indirect materials.
- B.** direct materials.
- C. supplies.
- D. product materials.

22. Which of the following statements is *true* regarding manufacturing costs?

- A. They will appear on the income statement as the product is made.
- B. They will not appear on the income statement or the balance sheet until the product is completed.
- C.** They will appear on the balance sheet as an inventory cost until the product is sold.
- D. They will appear on the balance sheet as an inventory cost after the product is sold.

23. Which of the following statements is *false* regarding nonmanufacturing costs?

- A. They are incurred outside the factory.
- B. They include selling and administrative costs.
- C. They are not directly incurred to make a product.
- D.** They include indirect materials and indirect labor costs.

24. Which of the following would most likely be classified as indirect materials?

- A. Wood used to build a customized bookshelf
- B.** Lubricants used on factory machinery
- C. Supplies used by the administrative employees
- D. Packing pellets used for shipping products to customers

25. Which of the following types of employees would most likely have their wage be classified as direct labor?

- A. Factory maintenance worker
- B. Factory supervisor
- C. Managerial accountant
- D.** Assembly-line factory worker

26. Which of the following types of employees would most likely have their wage be classified as indirect labor?

- A.** Factory supervisor
- B. Managerial accountant
- C. Salesperson
- D. Machine operator

27. Manufacturing overhead includes:

- A. advertising costs.
- B.** indirect materials.
- C. sales commissions.
- D. shipping charges for finished goods.

28. Which of the following is *not* an example of a manufacturing overhead cost?

- A.** Shipping charges on finished products
- B. Indirect materials
- C. Indirect labor
- D. Depreciation on factory equipment

29. Which of the following is an example of a manufacturing overhead cost?

- A. Supplies used by administrative staff
- B. Supplies used by a salesperson
- C. Materials easily traced to a specific product
- D. Lubricants used by factory maintenance workers**

30. Which of the following is *not* an example of manufacturing overhead costs?

- A. Fringe benefits paid to assembly-line workers**
- B. Depreciation of factory machinery
- C. Overtime pay to factory supervisors
- D. Insurance on factory machinery

31. Which of the following is a product cost?

- A. Insurance on factory machinery**
- B. Insurance on delivery trucks
- C. Lease expense on office computer
- D. Advertising costs

### 32. Jasper Corporation

Jasper Corporation incurred the following costs in April:

Salesperson's salaries	\$40,000	Factory maintenance worker	\$20,000
Factory insurance	12,000	Administrative utilities	4,000
Factory supervisor salary	30,000	Administrative supplies	1,000
Advertising	15,000	Delivery truck insurance	2,000
Factory machine operator	22,000	Factory machine depreciation	6,000
Direct materials used	25,000	Receptionist salary	18,000

Refer to the Jasper Corporation information above. Total product costs are:

- A. \$130,000
- B. \$155,000
- C. \$115,000**
- D. \$117,000

### 33. Jasper Corporation

Jasper Corporation incurred the following costs in April:

Salesperson's salaries	\$40,000	Factory maintenance worker	\$20,000
Factory insurance	12,000	Administrative utilities	4,000
Factory supervisor salary	30,000	Administrative supplies	1,000
Advertising	15,000	Delivery truck insurance	2,000
Factory machine operator	22,000	Factory machine depreciation	6,000
Direct materials used	25,000	Receptionist salary	18,000

Refer to the Jasper Corporation information above. Total period costs are:

- A. \$86,000
- B. \$38,000
- C. \$40,000
- D. \$80,000**

34. The type of costing that takes into account costs incurred by all the activities throughout a product's entire life is called:

- A. life-cycle costing.**
- B. value-chain costing.
- C. full-costing.
- D. complete-costing.

35. The set of activities that increases the value of an organization's products and services is called the:

- A. activity chain.
- B. value chain.**
- C. profit chain.
- D. life chain.

36. Which of the following statements regarding life-cycle and/or product costing is true?

- A. Life-cycle costing is confined to direct materials, direct labor, and manufacturing overhead.
- B. Life-cycle costing would include research and development costs, advertising costs, and shipping costs.**
- C. Product costing would include marketing and distribution costs.
- D. Product costing would include research and development costs, direct materials, direct labor, and manufacturing overhead.

37. Which of the following is an "upstream cost" in the value chain?

- A. Advertising costs
- B. Sales staff salaries
- C. Shipping costs
- D. Research and development costs**

38. Which of the following is a "downstream cost" in the value chain?

- A. Research costs
- B. Shipping costs**
- C. Production costs
- D. Product design costs

39. Products and their costs flow through a production facility in the following order:

- A. Work-in-process, finished goods, cost of goods sold
- B.** Raw materials, work-in-process, finished goods, cost of goods sold
- C. Work-in-process, raw materials, cost of goods sold, finished goods
- D. Work-in-process, cost of goods manufactured, cost of goods sold

40. Which of the following *increases* the work-in-process account?

- A. Cost of goods sold
- B. Raw material purchased
- C. Administrative costs
- D.** Raw material used

41. Which of the following *decreases* the work-in-process account?

- A. Raw materials used
- B.** Cost of goods manufactured
- C. Direct labor
- D. Manufacturing overhead

42. Product costs that transfer into finished goods inventory are called:

- A.** cost of goods manufactured.
- B. cost of goods sold.
- C. period costs.
- D. raw materials used.

43. Product costs that transfer out of finished goods are called:

- A. work-in-process.
- B. cost of goods manufactured.
- C.** cost of goods sold.
- D. period costs.

44. Which of the following statements accurately describes manufacturing cost flows in a just-in-time (JIT) environment?

- A. Direct labor and overhead are maintained in a work-in-process account for long periods of time.
- B. There is little need to maintain a cost of goods sold account.
- C.** There is little need to maintain raw materials, work-in-process, or finished goods accounts.
- D. Manufacturing costs are maintained in the finished goods account for long periods of time.

45. Which of the following types of companies would be the *least* likely to have the following cost pattern?

Raw materials ® Work-in-Process ® Finished Goods ® Cost of goods sold

- A. Tire manufacturer
- B. Computer software manufacturer
- C. Retailer/merchandiser**
- D. Construction company

46. Clyde Retailer's is a local merchandiser which buys vintage clothing and sells it to local college students. Clyde began the year with inventory costing \$60,000. During the year inventory costing \$300,000 was purchased. At the end of the year, inventory costing \$45,000 still remained. What was Clyde's cost of goods sold for the year?

- A. \$255,000
- B. \$285,000
- C. \$300,000
- D. \$315,000**

47. The journal entry to record raw materials used would include a:

- A. debit to finished goods.
- B. debit to raw materials.
- C. debit to work-in-process.**
- D. debit to cost of goods sold.

48. In 2009 Bradshaw Inc. incurred \$40,000 of manufacturing overhead costs which will be paid for in 2010. Which of the following would be the correct journal entry to record this transaction?

- |                                     |               |               |
|-------------------------------------|---------------|---------------|
| A. Cost of goods sold               | 40,000        |               |
| Accounts payable                    |               | 40,000        |
| B. Inventory                        | 40,000        |               |
| Accounts payable                    |               | 40,000        |
| C. Overhead expenses                | 40,000        |               |
| Accounts payable                    |               | 40,000        |
| <b>D. Work-in-process inventory</b> | <b>40,000</b> |               |
| Accounts payable                    |               | <b>40,000</b> |

49. The journal entry to record cost of goods manufactured would include a:

- A. credit to work-in-process.**
- B. credit to finished goods.
- C. debit to work-in-process.
- D. debit to cost of goods sold.



50. When the cost of a product is matched with its sales price, the result (difference) is called:

- A. net income.
- B. gross margin.**
- C. cost of goods sold.
- D. cost of goods manufactured.

51. When nonmanufacturing costs are subtracted from gross margin, the result is called:

- A. cost of goods sold.
- B. net income.**
- C. sales.
- D. nonmanufacturing income.

**52. Michael's Manufacturing, Inc.**

Michael's Manufacturing, Inc. has the following information available for the month of July:

	Beginning	Ending
Raw materials inventory	\$50,000	\$ 62,000
Work-in-process inventory	80,000	55,000
Finished goods inventory	24,000	35,000
Raw materials purchased		\$120,000
Direct labor costs		60,000
Overhead costs		45,000

Refer to the Michael's Manufacturing, Inc. information above. Raw materials used for July is:

- A. \$112,000
- B. \$108,000**
- C. \$120,000
- D. \$132,000

**53. Michael's Manufacturing, Inc.**

Michael's Manufacturing, Inc. has the following information available for the month of July:

	Beginning	Ending
Raw materials inventory	\$50,000	\$ 62,000
Work-in-process inventory	80,000	55,000
Finished goods inventory	24,000	35,000
Raw materials purchased		\$120,000
Direct labor costs		60,000
Overhead costs		45,000

Refer to the Michael's Manufacturing, Inc. information above. Cost of goods manufactured for July is:

- A. \$188,000
- B. \$250,000
- C. \$238,000**
- D. \$213,000

**54. Michael's Manufacturing, Inc.**

Michael's Manufacturing, Inc. has the following information available for the month of July:

	Beginning	Ending
Raw materials inventory	\$50,000	\$ 62,000
Work-in-process inventory	80,000	55,000
Finished goods inventory	24,000	35,000
Raw materials purchased		\$120,000
Direct labor costs		60,000
Overhead costs		45,000

Refer to the Michael's Manufacturing, Inc. information above. Cost of goods sold for July is:

- A. \$227,000**
- B. \$202,000
- C. \$249,000
- D. \$239,000

**55. Nate's Novelties, Inc.**

Nate's Novelties, Inc. has the following information available for July:

	Beginning	Ending
Raw materials inventory	\$12,000	\$ 9,000
Work-in-process inventory	35,000	20,000
Finished goods inventory	20,000	44,000
Raw materials purchased		\$25,000
Direct labor costs		55,000
Overhead costs		35,000

Refer to the Nate's Novelties, Inc. information above. Raw materials used for July is:

- A. \$21,000
- B. \$22,000
- C. \$25,000
- D. \$28,000**

**56. Nate's Novelties, Inc.**

Nate's Novelties, Inc. has the following information available for July:

	Beginning	Ending
Raw materials inventory	\$12,000	\$ 9,000
Work-in-process inventory	35,000	20,000
Finished goods inventory	20,000	44,000
Raw materials purchased		\$25,000
Direct labor costs		55,000
Overhead costs		35,000

Refer to the Nate's Novelties, Inc. information above. Cost of goods manufactured for July is:

- A. \$153,000
- B. \$103,000
- C. \$130,000
- D. \$133,000**

**57. Nate's Novelties, Inc.**

Nate's Novelties, Inc. has the following information available for July:

	Beginning	Ending
Raw materials inventory	\$12,000	\$ 9,000
Work-in-process inventory	35,000	20,000
Finished goods inventory	20,000	44,000
Raw materials purchased		\$25,000
Direct labor costs		55,000
Overhead costs		35,000

Refer to the Nate's Novelties, Inc. information above. Cost of goods sold for July is:

- A. \$106,000
- B. \$157,000
- C. \$129,000
- D. \$109,000**

### 58. Scott Products

Scott Products manufactures high-quality running shoes. The following information is available for 2009:

	Beginning	Ending
Raw materials inventory	\$ 65,000	\$ 82,000
Work-in-process inventory	280,000	130,000
Finished goods inventory	90,000	120,000
Raw materials purchased		\$250,000
Direct labor costs		340,000
Factory rent		60,000
Factory supplies		20,000
Factory utilities		15,000
Factory depreciation		30,000
Marketing costs		25,000
Administrative costs		100,000

In addition, 42,400 pairs were produced in 2009 out of which 40,900 pairs were sold for \$70 each.

Refer to the Scott Products information above. Cost of goods manufactured for 2009 is:

- A. \$990,000
- B. \$973,000
- C. \$848,000**
- D. \$865,000

### 59. Scott Products

Scott Products manufactures high-quality running shoes. The following information is available for 2009:

	Beginning	Ending
Raw materials inventory	\$ 65,000	\$ 82,000
Work-in-process inventory	280,000	130,000
Finished goods inventory	90,000	120,000
Raw materials purchased		\$250,000
Direct labor costs		340,000
Factory rent		60,000
Factory supplies		20,000
Factory utilities		15,000
Factory depreciation		30,000
Marketing costs		25,000
Administrative costs		100,000

In addition, 42,400 pairs were produced in 2009 out of which 40,900 pairs were sold for \$70 each.

Refer to the Scott Products information above. What is net income for 2009? (ignore taxes)

- A. \$1,920,000**
- B. \$2,025,000
- C. \$1,890,000
- D. \$2,045,000

60. Thompson Inc. has the following selected information available for 2009:

Cost of goods manufactured	\$180,000
Cost of goods sold	150,000
Direct labor costs incurred	45,000
Raw material purchased	90,000
Raw material used	80,000
Beginning work-in-process	15,000
Ending work-in-process	9,000

Manufacturing overhead costs in 2005 amounted to:

- A. \$39,000
- B. \$55,000
- C. \$49,000**
- D. \$31,000

**61. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. What is the product cost per unit?

- A. \$3.05
- B. \$2.75
- C. \$2.44
- D. \$2.20**

**62. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. What is cost of goods sold for the year?

- A.** \$ 88,000
- B. \$ 97,600
- C. \$122,000
- D. \$110,000

**63. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. Out of the above costs, what amount remains on the balance sheet at the end of 2009?

- A. \$12,000
- B. \$20,000
- C.** \$22,000
- D. \$24,400

**64. Hillsborough Street Manufacturing Inc.**

Hillsborough Street Manufacturing Inc. incurred the following costs in 2009:

Direct materials used	\$37,000
Direct labor costs	45,000
Factory rent and utilities	18,000
Factory equipment depreciation	10,000
Marketing expenses	3,000
Administrative expenses	9,000

50,000 units were produced during the year out of which 40,000 units were sold for \$10 each. There was no beginning or ending raw materials or work-in-process inventory.

Refer to the Hillsborough Street Manufacturing Inc. information above. What is net income for the year?

- A. \$278,000
- B. \$312,000
- C. \$378,000
- D.** \$300,000

**65. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Total nonmanufacturing costs for September are:

- A. \$113,000
- B. \$161,000
- C. \$ 18,000**
- D. \$ 43,000

**66. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Cost of goods manufactured for September is:

- A. \$118,000**
- B. \$136,000
- C. \$115,000
- D. \$133,000

**67. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Cost of goods sold for September is:

- A. \$119,000
- B. \$143,000
- C. \$140,000
- D. \$122,000**

**68. Hudson Inc.**

Hudson Inc. has the following information available for September:

	Beginning	Ending
Raw materials	\$ 8,000	\$ 5,000
Work-in-process	30,000	40,000
Finished goods	7,000	3,000
Raw materials purchased		25,000
Direct labor costs		70,000
Manufacturing overhead costs		30,000
Administrative costs		12,000
Marketing costs		6,000

Refer to the Hudson Inc. information above. Sales revenue for September totaled \$400,000. Net income for September is:

- A. \$257,000
- B. \$260,000**
- C. \$264,000
- D. \$278,000

69. In a traditional manufacturing environment, as the cost of goods sold account increases, which account is most likely decreasing?

- A. Work-in-process inventory
- B. Finished goods inventory**
- C. Raw materials inventory
- D. Cash



### 70. Jones Manufacturing Inc.

Jones Manufacturing Inc. incurred the following costs in November:

Direct labor	\$50,000	Advertising costs	\$ 3,000
Indirect labor	20,000	Factory rent	10,000
Administrative salaries	25,000	Factory depreciation	6,000
Direct materials purchased	23,000	Administrative rent	5,000
Indirect materials used	4,000	Administrative depreciation	7,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 5,000	\$ 8,000
Work-in-process	60,000	55,000
Finished goods	17,250	9,200
Number of units produced	20,000 units	
Number of units sold (sales price of \$25 per unit)	21,400 units	

Refer to the Jones Manufacturing Inc. information above. Cost of goods manufactured in November is:

- A. \$ 91,000
- B. \$115,000**
- C. \$155,000
- D. \$143,000

### 71. Jones Manufacturing Inc.

Jones Manufacturing Inc. incurred the following costs in November:

Direct labor	\$50,000	Advertising costs	\$ 3,000
Indirect labor	20,000	Factory rent	10,000
Administrative salaries	25,000	Factory depreciation	6,000
Direct materials purchased	23,000	Administrative rent	5,000
Indirect materials used	4,000	Administrative depreciation	7,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 5,000	\$ 8,000
Work-in-process	60,000	55,000
Finished goods	17,250	9,200
Number of units produced	20,000 units	
Number of units sold (sales price of \$25 per unit)	21,400 units	

Refer to the Jones Manufacturing Inc. information above. The product cost per unit in November is:

- A. \$4.55
- B. \$7.75
- C. \$5.75**
- D. \$5.37

**72. Jones Manufacturing Inc.**

Jones Manufacturing Inc. incurred the following costs in November:

Direct labor	\$50,000	Advertising costs	\$ 3,000
Indirect labor	20,000	Factory rent	10,000
Administrative salaries	25,000	Factory depreciation	6,000
Direct materials purchased	23,000	Administrative rent	5,000
Indirect materials used	4,000	Administrative depreciation	7,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 5,000	\$ 8,000
Work-in-process	60,000	55,000
Finished goods	17,250	9,200
Number of units produced	20,000 units	
Number of units sold		
(sales price of \$25 per unit)	21,400 units	

Refer to the Jones Manufacturing Inc. information above. Net income for November is: (ignore taxes)

- A. \$371,950**
- B. \$411,950
- C. \$369,150
- D. \$382,000

**73. Johnson Manufacturing has the following selected information available for the year:**

Direct material purchased	\$ 40,000
Direct material used	45,000
Direct labor incurred	75,000
Manufacturing overhead incurred	50,000
Cost of goods manufactured	100,000

In addition, the cost of the finished goods inventory increased by \$10,000 from the beginning to the end of the year. Cost of goods sold for the year is:

- A. \$ 80,000
- B. \$170,000
- C. \$ 90,000**
- D. \$110,000

74. Chancellor Industries, a manufacturing company, prepays its insurance coverage for a two-year period. The premium for two-year's worth of coverage is \$14,400 and is paid at the beginning of the first year. Two-thirds of the premium relates to factory operations and one-third relates to selling and administrative activities.

The amount of premium that should be recorded as a product cost for the first year is:

- A.** \$ 4,800
- B. \$ 2,400
- C. \$ 9,600
- D. \$14,400

75. Clapton Inc. would like to prepare an income statement for March. Their production department records show that total product costs in March were \$225,000 when 50,000 units were produced. Their sales department records show that 46,000 units were sold for \$16 each. Monthly administrative and marketing expenses totaled \$60,000. What should be net income for March?

- A. \$529,000
- B. \$473,800
- C. \$451,000
- D.** \$469,000

76. Which of the following statements is *true* regarding period costs?

- A. They "attach" themselves to the product.
- B. They will appear the balance sheet until the product is sold.
- C.** They will appear on the income statement in the year they are incurred.
- D. They will not impact gross margin or net income.

### 77. Franklin Street Manufacturing

Franklin Street Manufacturing has the following cost information available for 2009:

Direct materials used	\$10,000
Direct labor costs	25,000
Factory overhead	20,000
Marketing expenses	4,000
Administrative expenses	6,000

20,000 units were produced during the year out of which 19,000 units were sold for \$10 each.

Refer to the Franklin Street Manufacturing information above. What is cost of goods sold for 2009?

- A. \$55,000
- B.** \$52,250
- C. \$61,750
- D. \$65,000

### 78. Franklin Street Manufacturing

Franklin Street Manufacturing has the following cost information available for 2009:

Direct materials used	\$10,000
Direct labor costs	25,000
Factory overhead	20,000
Marketing expenses	4,000
Administrative expenses	6,000

20,000 units were produced during the year out of which 19,000 units were sold for \$10 each.

Refer to the Franklin Street Manufacturing information above. Out of the above costs, what amount remains on the balance sheet at the end of 2009?

- A.** \$ 2,750
- B. \$12,750
- C. \$10,000
- D. \$ 3,250

### 79. Franklin Street Manufacturing

Franklin Street Manufacturing has the following cost information available for 2009:

Direct materials used	\$10,000
Direct labor costs	25,000
Factory overhead	20,000
Marketing expenses	4,000
Administrative expenses	6,000

20,000 units were produced during the year out of which 19,000 units were sold for \$10 each.

Refer to the Franklin Street Manufacturing information above. What is net income for 2009?

- A.** \$127,750
- B. \$137,750
- C. \$125,000
- D. \$128,250

80. Brenda's Bakery has the following information available for October:

	Beginning		Ending
Raw materials	\$ 4,000		\$ 2,000
Work-in-process	32,000		17,000
Finished goods	5,000		3,000
	Cost of goods manufactured		88,000
	Cost of goods sold		90,000
	Direct labor costs		35,000
	Factory rent and depreciation		10,000
Selling expenses			3,000

How much raw material was *purchased* in October?

- A. \$23,000
- B. \$25,000
- C. \$26,000**
- D. \$28,000

81. Provide specific examples of why accurate product or service costing information is important for internal purposes.

It may be useful for the following reasons:

- to determine accurate pricing information
- to determine a product's profitability
- for cash budgeting purposes

82. Briefly compare a traditional manufacturing environment with a lean production and just-in-time (JIT) manufacturing environment.

In a traditional environment, inventories of raw materials, work-in-process, and finished goods are accumulated in order to act as buffers in the event of unexpected demand. Typically, there is a "push" approach where the manufacturing process is started *before* the customer order is taken and inventory is subsequently pushed through the manufacturing process. In addition, the factory is organized where similar machines are grouped together. Machine operators do not need to be highly trained because they use very few different machines.

In a lean production and just-in-time (JIT) environment, there is a "pull" approach where the manufacturing process is not started until a customer order is taken. Buffers of inventory are not accumulated. In addition, the factory is laid out in manufacturing cells where all the machinery needed to make a product is available in one area. There is usually a limited number of highly reliable suppliers used and employees need to be highly trained and reliable as well. Emphasis is placed on reducing waste by not producing more product than is needed, not over-processing a product, not moving products or people more than is needed, and eliminating down time caused by people waiting for work to do and products waiting in mid-assembly.

83. Describe the cost accumulation process in a traditional manufacturing environment versus a just-in-time (JIT) environment.

In a traditional manufacturing environment, when raw materials are received, their cost is recorded in the raw materials account until they are needed for production. When raw materials are needed for production, their costs are moved from the raw materials account to the work-in-process account to be added to direct labor and overhead costs. Once production is complete, all product costs related to the completed units are transferred from work-in-process to the finished goods account until the units are sold. When sold, associated costs are transferred to cost of goods sold. In a just-in-time environment, very little, if any, inventories are maintained. As raw materials, direct labor, and overhead costs are incurred for a specific job, the costs are often put directly into the cost of goods sold account. The cost accumulation process in a just-in-time environment is called backflush costing.

84. Identify at least two characteristics of a lean production and just-in-time (JIT) manufacturing environment.

Some of the characteristics are as follows:

- the absence of inventories
- the use of manufacturing cells
- a "pull" system
- fewer but highly reliable suppliers
- focus on reduction of waste and scrap
- trained and reliable employees

85. Identify some of the benefits and risks of a lean production and just-in-time (JIT) environment.

Benefits:

- Greater efficiency in the time it takes to make a product
- Reduced inventory storage and holding costs
- Higher quality products (reduction in product defects)
- Increased customer satisfaction
- Increased employee motivation
- A reduction of waste and scrap
- Lower overall production costs
- Lower labor costs
- Increased manufacturing flexibility

Risks:

- Increased raw materials cost (sometimes)
- Disruption in raw material or direct labor supply can halt the production process leading to lost sales.

86. Describe each of the following as either a *product* or *period* cost.

- |    |                               |    |                                              |
|----|-------------------------------|----|----------------------------------------------|
| a. | factory depreciation          | f. | direct materials                             |
| b. | indirect labor                | g. | indirect materials                           |
| c. | administrative salaries       | h. | advertising                                  |
| d. | direct labor                  | i. | factory insurance                            |
| e. | utilities used in the factory | j. | utilities used in the administrative offices |

- |    |         |    |         |
|----|---------|----|---------|
| a. | product | f. | product |
| b. | product | g. | product |
| c. | period  | h. | period  |
| d. | product | i. | product |
| e. | product | j. | period  |

87. Briefly describe the difference between a manufacturing and a nonmanufacturing cost.

A manufacturing cost is a cost incurred in the factory as a result of the production process. Manufacturing costs consist of direct materials, direct labor, and overhead. These costs are often called product costs because the costs attach themselves to the product and are considered to be inventory on the balance sheet until the product is sold. Nonmanufacturing costs are incurred outside of the factory. These costs are often called period costs and are expensed on the income statement in the period incurred.

88. Identify with an "X" the following costs as either a manufacturing (product) or nonmanufacturing (period) cost. If it is a manufacturing cost, further identify it as either direct material (DM), direct labor (DL), or overhead (OH).

Manufacturing Cost	Nonmanufacturing Cost		
	DM	DL	OH
Indirect labor			
Factory supplies			
Material easily traced to product			
Administrative salaries			
Factory rent			
Indirect materials			
Shipping costs			
Administrative building utilities			
Factory equipment depreciation			
Machine operator			

Manufacturing Cost	Nonmanufacturing Cost		
	DM	DL	OH
Indirect labor			X
Factory supplies			X
Material easily traced to product	X		
Administrative salaries			X
Factory rent			X
Indirect materials			X
Shipping costs			X
Administrative building utilities			X
Factory equipment depreciation			X
Machine operator		X	

89. Indicate whether each of the following accounts would be found on the balance sheet (BS) or income statement (IS).

- |                    |                                        |
|--------------------|----------------------------------------|
| a. Work-in-process | d. Raw materials                       |
| b. Sales           | e. Cost of goods sold                  |
| c. Finished goods  | f. Selling and administrative expenses |

- |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| a. BS | b. IS | c. BS | d. BS | e. IS | f. IS |
|-------|-------|-------|-------|-------|-------|



90. How does life-cycle costing differ from product costing?

Product costing focuses on the manufacturing costs incurred in the production of a product (ex. direct material, direct labor, manufacturing overhead), while life-cycle costing extends to all costs incurred throughout a product's life (ex. research and development, advertising, shipping, customer service).

91. Classify the following as either direct labor (DL), indirect labor (IL), or a period cost (P).

- a. factory maintenance worker
- b. company president
- c. assembly-line worker
- d. salesperson working on commission
- e. factory supervisor
- f. administrative assistant
- g. machine operator

a. IL      b. P      c. DL      d. P      e. IL      f. P      g. DL

92. Classify each of the following as either a direct material (DM), indirect material (IM), or period cost (P).

- a. wood used to build custom bookshelves
- b. sandpaper, glue, and nails used to build customer bookshelves.
- c. paper supplies used in the administrative offices.
- d. computer chips used in computer
- e. cleaning supplies used in the factory

a. DM      b. IM      c. P      d. DM      e. IM

93. Capital Manufacturing produces a unique souvenir product for various museums around the country. During the year, the company incurred the following costs:

Direct material used	\$50,000
Direct labor	80,000
Manufacturing overhead	30,000
Marketing expenses	10,000
Administrative expenses	20,000

During the year, 25,000 units were produced out of which 20,000 units were sold for \$15 each.

Required:

- A. Calculate the total product costs incurred for the year.
- B. What is the product cost per unit?
- C. What is cost of goods sold for the year?
- D. What is net income for the year?

- A. Total product costs = \$160,000 (\$50,000 + \$80,000 + \$30,000)
- B. Product cost per unit = \$6.40 (\$160,000/25,000 units)
- C. Cost of goods sold = \$128,000 (\$6.40 per unit × 20,000 units sold)
- D. Net income = \$142,000 [(20,000 × \$15) - 128,000 - 30,000]

94. McClintock Manufacturing Inc. has the following information available for the month of July:

	Beginning		Ending
Raw materials inventory	\$12,000		\$ 8,000
Work-in-process inventory	45,000		55,000
Finished goods inventory	9,000		11,000
Raw materials purchased			\$45,000
Direct labor costs			80,000
Overhead costs			30,000
	Selling and administrative costs		20,000

Required:

- A. Calculate raw materials used for July.
- B. Calculate cost of goods manufactured for July.
- C. Calculate cost of goods sold for July
- D. Assume that sales revenue totaled \$250,000, calculate net income for July. (ignore taxes)

- A. Raw materials used = \$49,000 (\$12,000 + \$45,000 - \$8,000)
- B. CGM = \$149,000 (\$45,000 + \$49,000 + \$80,000 + \$30,000 - \$55,000)
- C. CGS = \$147,000 (\$9,000 + \$149,000 - \$11,000)
- D. NI = \$83,000 (\$250,000 - \$147,000 - \$20,000)

95. Pearce Manufacturing Inc. incurred the following costs in February:

Direct labor	\$40,000	Advertising costs	\$1,000
Indirect labor	15,000	Factory rent	4,000
Administrative salaries	8,000	Factory depreciation	2,000
Raw materials purchased	10,000	Administrative rent	3,000
Indirect materials used	4,000	Administrative depreciation	1,000

In addition, the following information is also available:

	Beginning	Ending
Raw materials	\$ 2,000	\$ 4,000
Work-in-process	25,000	18,000
Finished goods	4,000	12,000
Number of units produced	10,000 units	
Number of units sold (sales price of \$25 per unit)	9,000 units	

Required:

- A. Calculate total period costs.
- B. Calculate raw materials used.
- C. Calculate cost of goods manufactured.
- D. Calculate the product cost per unit.
- E. Calculate cost of goods sold.
- F. Calculate net income. (ignore taxes)
- G. Calculate the remaining costs on the balance sheet at the end of February.

- A. Total period costs = \$13,000 (8,000 + 1,000 + 3,000 + 1,000)
- B. RM used = \$8,000 (2,000 + 10,000 - 4,000)
- C. CGM = \$80,000  
(25,000 + 8,000 + 40,000 + 15,000 + 4,000 + 4,000 + 2,000 - 18,000)
- D. Product cost = \$8.00 per unit (\$80,000/10,000 units)
- E. CGS = \$72,000 (9,000 units sold  $\times$  \$8.00)
- F. NI = \$140,000 [(9,000  $\times$  \$25) - 72,000 - 13,000]
- G. Remaining balance sheet costs = \$34,000 (4,000 + 18,000 + 12,000)

96. Creative Products Inc. incurred the following costs (in alphabetical order) during 2005 related to one of its products:

Administrative costs	\$ 2,000
Advertising costs	1,000
Direct material used	8,000
Direct labor	20,000
Factory equipment depreciation	1,000
Factory rent	5,000
Indirect labor	3,000
Indirect materials	2,000

During the year, 3,000 units were produced out of which 2,750 units were sold for \$30 each.

Required:

- A. Calculate the total product costs incurred for the year.
  - B. What is the product cost per unit?
  - C. What is cost of goods sold for the year?
  - D. What is net income for the year?
- 
- A. Total product costs = \$39,000 (8,000 + 20,000 + 5,000 + 3,000 + 2,000 + 1,000)
  - B. Product cost per unit = \$13.00 (\$39,000/3,000)
  - C. CGS = \$35,750 (2,750  $\times$  \$13)
  - D. NI = 43,750 [(\$30  $\times$  2,750) - 35,750 - 2,000 - 1,000]

97. The following information is available for the Brown Company for the month ended July 31:

Direct materials purchased	\$ 21,000
Direct labor (2,500 hrs@\$12)	30,000
Indirect labor	3,000
Indirect materials	2,500
Office supplies expense	100
Factory equipment depreciation	2,000
Office Equipment depreciation	750
Administrative expenses	20,000
Office utilities	75
Factory utilities	200
Marketing expense	2,500
Sales revenue	150,000
Sales commissions expense	1,500

	Beginning	Ending
Direct materials inventory	\$27,000	\$ 24,500
Work in process inventory	25,000	29,000
Finished Goods inventory	22,000	15,000

Required:

- A. Determine the direct materials used in July.
- B. Determine cost of goods manufactured in July.
- C. Determine cost of goods sold for July.
- D. Prepare an income statement for July. (ignore taxes)

A.	Beginning direct materials	\$27,000
	Direct materials purchased	<u>21,000</u>
	Direct materials available	48,000
	Ending direct materials	<u>(24,500)</u>
	Direct materials used	\$23,500

B.	Beginning work-in-process inventory	\$25,000
	Direct material used	23,500
	Direct labor	30,000
	Overhead:	
	Indirect labor	\$3,000
	Indirect materials	2,500
	Factory equipment depreciation	2,000
	Factory utilities	<u>200</u>
	Total overhead	<u>7,700</u>
	Total manufacturing costs	86,200
	Ending work-in-process inventory	<u>(29,000)</u>
	Cost of goods manufactured	\$57,200

C.	Beginning finished goods inventory	\$22,000
	Cost of goods manufactured	<u>57,200</u>
	Cost of goods available	79,200
	Ending finished goods inventory	<u>(15,000)</u>
	Cost of goods sold	\$64,200

D.

Brown  
Company  
Income  
Statement  
For the  
Month  
Ended  
July 31

Sales revenue	\$150,000	
Cost of goods sold	<u>(64,200)</u>	
Gross Profit	85,800	
Operating expenses:		
Office Supplies expense	\$ 100	
Office equipment depreciation	750	
Administrative expenses	20,000	
Office utilities	75	
Marketing expense	2,500	
Sales commissions	<u>1,500</u>	<u>(24,925)</u>
Net income	<u>\$ 60,875</u>	