

## CHAPTER 2

### Job-Order Costing for Manufacturing and Service Companies

#### Summary of Questions by Objectives and Bloom's Taxonomy

Item	LO	BT	Item	LO	BT	Item	LO	BT	Item	LO	BT	Item	LO	BT
<b>True-False Statements</b>														
1.	1	K	7.	2	K	13.	3	C	19.	4	K	25.	5	C
2.	1	K	8.	2	K	14.	3	C	20.	4	K	26.	6	K
3.	1	K	9.	2,5	K	15.	2	K	21.	4	K	27.	6	K
4.	1	K	10.	2	K	16.	2,3	K	22.	5	K	28.	7	K
5.	1	K	11.	2	K	17.	4	K	23.	5	C	29.	7	K
6.	1	K	12.	3	K	18.	4	K	24.	5	C			
<b>Multiple Choice Questions</b>														
30.	1	K	55.	2,3	AP	80.	4	AP	105.	4,5	AP	130.	5	AP
31.	1	K	56.	2,3	AP	81.	5,6	AP	106.	4,5	AP	131.	5	AP
32.	1	C	57.	2,3	AP	82.	4,6	AP	107.	4,5	AP	132.	5	AP
33.	1	C	58.	2,3	AP	83.	5	AP	108.	4	AP	133.	5	AP
34.	1	C	59.	2,3	AP	84.	4	K	109.	4,5	AP	134.	5	AP
35.	1	C	60.	2,3	AP	85.	2,4	K	110.	4	AP	135.	5	AP
36.	1	C	61.	2,3	AP	86.	4	K	111.	5	AP	136.	5	AP
37.	1	K	62.	2,3	AP	87.	4	C	112.	4	AP	137.	5	AP
38.	1	C	63.	2,3	AP	88.	4,5	K	113.	4	AP	138.	5	AP
39.	1	C	64.	2,3	AP	89.	4,5	K	114.	5	AP	139.	5	AP
40.	2	K	65.	3	C	90.	2,4	K	115.	5	C	140.	5	AP
41.	2	K	66.	3	C	91.	4	K	116.	5	C	141.	5	AP
42.	2	K	67.	3	K	92.	5	K	117.	5	AP	142.	5	AP
43.	2	C	68.	2	K	93.	4,5	AP	118.	5	AP	143.	6	K
44.	2	K	69.	4	K	94.	5	K	119.	5	K	144.	7	K
45.	2	AP	70.	2	AP	95.	5	K	120.	5	C	145.	7	C
46.	2	AP	71.	2	AP	96.	4,5	K	121.	5	C	146.	7	K
47.	2,5	AP	72.	2	AP	97.	4,5	K	122.	5	C	147.	7	K
48.	2,3	AP	73.	4	AP	98.	4,5	K	123.	5	AP	148.	7	K
49.	2,3	AP	74.	2,4,6	AP	99.	4,5	AP	124.	5	AP	149.	7	K
50.	2,3	AP	75.	5	AP	100.	4,5	AP	125.	5	AP	150.	7	C
51.	2,3	AP	76.	2	AP	101.	5	AP	126.	5	AP			
52.	2,3	AP	77.	4	AP	102.	5	AP	127.	5	AP			
53.	2,3	AP	78.	4	AP	103.	4,5	AP	128.	5	AP			
54.	2,3	AP	79.	4	AP	104.	4,5	AP	129.	5	AP			
<b>Matching</b>														
151.	1-7	K												
<b>Exercises</b>														
152.	1,2	AP	155.	4	AP	158.	4,5	AP	161.	4,5	AP	164.	5	AP
153.	1,2	AP	156.	4	AP	159.	5	AP	162.	4,5	AP	165.	5	AP
154.	3	K	157.	4	AP	160.	4,5,6	AP	163.	5	AP	166.	5,6	AP
<b>Challenge Exercises</b>														
167.	1,2	AP	168.	1,5	AP	169.	4,5,6	AP						
<b>Short-Answer Essays</b>														
170.	1	C	172.	1	K	174.	5	C	176.	7	C	178.	5	C
171.	1	K	173.	3	K	175.	4	C	177.	7	C			

### TRUE-FALSE STATEMENTS

1. All costs other than direct materials, direct labor, indirect materials, and indirect labor are classified as period costs.
2. The wages of a factory machine maintenance worker are classified as direct labor.
3. Insurance on factory equipment is a part of manufacturing overhead.
4. Sales commissions are considered a product cost.
5. Period costs are identified with accounting periods rather than with goods produced.
6. Rent of the office building for the sales staff is a period cost.
7. Raw Materials Inventory, Work in Process Inventory, and Cost of Goods Sold will appear on a company's balance sheet.
8. Cost of Goods Manufactured appears on the balance sheet.
9. Overhead is related ideally to production using an allocation base.
10. Indirect labor is added directly to the Work in Process account in a job-order costing system.
11. Direct labor costs are traced to each job.
12. Process costing systems are generally used by companies that produce large quantities of identical items.
13. A company that builds custom homes would likely use a process costing system.
14. A company that designs advertising campaigns for other companies would likely use job-order costing.
15. In a job-order costing system, the Finished Goods account includes the cost of all jobs completed and sold during an accounting period.
16. In a job-order costing system, the Cost of Goods Sold account consists of costs transferred out of the Finished Goods account.
17. A job cost sheet is a form used to accumulate costs of a particular job in a job-order costing system.
18. When overhead is applied to jobs, Manufacturing Overhead is debited and Work in Process is credited.
19. In a job-order costing system, the Cost of Goods Manufactured account is increased and the Finished Goods account is decreased when a job is completed.
20. In a job-order costing system, Work in Process is debited and Finished Goods is credited when a job is sold.

21. Increases in overhead costs should be driven by increases in the overhead allocation base.
22. Underapplied overhead occurs when actual overhead is greater than the amount of overhead applied to jobs.
23. If the amount of over- or under-applied overhead is material, the amount should be closed to Work in Process.
24. If the amount of overapplied overhead is **not** material, the amount should be closed to Cost of Goods Sold.
25. If overhead is underapplied, closing it to Cost of Goods Sold will increase income.
26. Job-order costing is often used by service companies, such as lawyers who need to determine the cost of lawsuit or consultants who need to determine the cost of an engagement.
27. Because H&R Block provides no materials when it completes a tax return for a client, it does not assign overhead costs to each tax return client.
28. The use of computer-controlled manufacturing systems has had a significant effect on the composition of product costs.
29. One goal of just-in-time systems is to minimize inventory levels.

### Answers to True-False

1	F	7	F	13	F	19	F	25	F
2	F	8	F	14	T	20	F	26	T
3	T	9	T	15	F	21	T	27	F
4	F	10	F	16	T	22	T	28	T
5	T	11	T	17	T	23	F	29	T
6	T	12	T	18	F	24	T		

## MULTIPLE CHOICE

30. Which of the following is **not** a reason for companies to know the cost of their products?
- A. The company must set appropriate prices for the products.
  - B. The salary of the company president is based on the cost of the product.
  - C. The cost of the product is used in the calculation of profit when the product is sold.
  - D. The management of the company needs to assess the reasonableness of the costs incurred in purchasing or manufacturing the products.
31. Which of the following is a manufacturing cost?
- A. Cost of supplies used by sales personnel
  - B. Indirect factory labor
  - C. Product advertising costs
  - D. Administrative expenses
32. Which of the following is an example of a manufacturing overhead cost?
- A. Wages paid to security personnel at the corporate office building
  - B. The cost of electricity used to run the oven in which Domino's bakes its pizzas
  - C. Cost of shipping product to customers
  - D. The salary of the president of the company
33. Which of the following is a manufacturing cost?
- A. Indirect materials
  - B. Advertising expense
  - C. Depreciation of the office equipment used by the sales staff
  - D. Salary of clerical workers
34. Westerhouse manufactures refrigerators. Which of the following items is most likely considered an indirect material cost for Westerhouse?
- A. Supplies used by the factory janitor
  - B. Gasoline costs for trucks used to deliver products to customers
  - C. Glass shelves for the refrigerators
  - D. Refrigerator motors
35. Which of the following costs is **not** part of manufacturing overhead?
- A. Electricity for the factory
  - B. Depreciation of factory equipment
  - C. Salaries for the production supervisors
  - D. Health insurance for sales staff
36. Which of the following costs is part of manufacturing overhead?
- A. Indirect labor
  - B. Direct labor
  - C. Salaries for the accounting personnel
  - D. Wages for the janitorial staff for the sales offices
37. Product costs
- A. are also called period costs.
  - B. are considered an asset until the finished goods are sold.
  - C. become an expense in the period the costs are incurred.
  - D. All of these answer choices are correct.

38. Which of the following is a period cost?
- A. Rent on a factory machine
  - B. Maintenance on production equipment
  - C. Indirect labor
  - D. Janitorial costs for the corporate office
39. Which of the following is **not** a period cost?
- A. Advertising costs
  - B. Accounting staff salaries
  - C. Direct materials
  - D. Depreciation of accounting office equipment
40. Which of the following accounts does **not** appear on the balance sheet?
- A. Raw Materials Inventory
  - B. Finished Goods Inventory
  - C. Work in Process Inventory
  - D. Cost of Goods Manufactured
41. Work in Process Inventory includes the cost of
- A. goods which are only partially completed.
  - B. all goods sold during the period.
  - C. all materials purchased during the last period.
  - D. all goods which are completed and ready to sell.
42. Which of the following is **not** a cost that is included in the ending balances of the Work in Process Inventory account in a job-order cost system?
- A. Cost of Goods Sold
  - B. Costs of tires attached to wagons by a toy manufacturer
  - C. Factory-related costs
  - D. Cost of wages earned by assembly workers
43. Which of the following lists presents the accounts in the order in which product costs flow?
- A. Cost of Goods Sold, Work in Process Inventory, Raw Materials Inventory, Finished Goods Inventory
  - B. Work in Process Inventory, Finished Goods Inventory, Cost of Goods Sold, Raw Materials Inventory
  - C. Raw Materials Inventory, Finished Goods Inventory, Work in Process Inventory, Cost of Goods Sold
  - D. Raw Materials Inventory, Work in Process Inventory, Finished Goods Inventory, Cost of Goods Sold
44. Cost of goods manufactured
- A. is the amount transferred from Work in Process Inventory to Finished Goods Inventory during the period.
  - B. is equal to the beginning Work in Process Inventory plus the current period's manufacturing costs plus the ending Work in Process Inventory.
  - C. is always equal to cost of goods sold.
  - D. is transferred to Raw Material Inventory account.

45. DistaBricks manufactures custom brick and applies job-order costing. The following information relates to the fiscal year ending December 31, 2017.

Beginning balance in Raw Materials Inventory	\$ 13,600
Purchases of raw material	211,000
Ending balance in Raw Materials Inventory	15,100
Beginning balance in Work in Process	18,700
Ending balance in Work in Process	16,500
Direct labor cost	78,600
Manufacturing overhead applied	47,900
Actual manufacturing overhead	44,800
Beginning balance in Finished Goods	26,200
Ending balance in Finished Goods	24,500
Sales	421,000
Selling expenses	115,400
General and administrative expenses	75,900

How much is the cost of direct materials transferred into production?

- A. \$224,600
  - B. \$212,500
  - C. \$209,500
  - D. \$211,000
46. DistaBricks manufactures custom brick and applies job-order costing. The following information relates to the fiscal year ending December 31, 2017.

Beginning balance in Raw Materials Inventory	\$ 13,600
Purchases of raw material	211,000
Ending balance in Raw Materials Inventory	15,100
Beginning balance in Work in Process	18,700
Ending balance in Work in Process	16,500
Direct labor cost	78,600
Manufacturing overhead applied	47,900
Actual manufacturing overhead	44,800
Beginning balance in Finished Goods	26,200
Ending balance in Finished Goods	24,500
Sales	421,000
Selling expenses	115,400
General and administrative expenses	75,900

How much is the cost of goods manufactured?

- A. \$336,000
- B. \$338,200
- C. \$335,100
- D. None of these answer choices are correct

47. DistaBricks manufactures custom brick and applies job-order costing. The following information relates to the fiscal year ending December 31, 2017.

Beginning balance in Raw Materials Inventory	\$ 13,600
Purchases of raw material	211,000
Ending balance in Raw Materials Inventory	15,100
Beginning balance in Work in Process	18,700
Ending balance in Work in Process	16,500
Direct labor cost	78,600
Manufacturing overhead applied	47,900
Actual manufacturing overhead	44,800
Beginning balance in Finished Goods	26,200
Ending balance in Finished Goods	24,500
Sales	421,000
Selling expenses	115,400
General and administrative expenses	75,900

How much is cost of goods sold prior to closing under or overapplied overhead?

- A. \$339,900  
 B. \$338,200  
 C. \$336,000  
 D. None of these answer choices are correct
48. The manufacturing operations of Saltic Enterprises had the following balances for the month of March:

	<u>March 1, 2017</u>	<u>March 31, 2017</u>
Raw Materials	\$11,000	\$14,000
Work in Process	8,000	10,000
Finished Goods	25,000	28,000

If Saltic calculated cost of goods to be \$249,000 in March, how much did it transfer out of Work in Process as completed goods?

- A. \$277,000  
 B. \$246,000  
 C. \$251,000  
 D. \$252,000
49. Blue Dynamics manufactures custom water fountains and employs job-order costing system. Beginning raw materials on October 1 totaled \$15,600. During October, Blue Dynamic's transactions and accounts included the following:

Raw materials acquired for cash	\$ 7,500
Raw materials received on account	88,900
Direct materials requisitioned and transferred to production	91,200
Cost of goods manufactured	187,900

How much is the balance of Raw Materials on October 31?

- A. \$20,800  
 B. \$96,400  
 C. \$5,200  
 D. \$9,800

50. Hard Walks Inc. designs and builds custom sidewalks and employs a job-order costing system. During June, the company's transactions and accounts included the following:

Raw materials purchased	\$282,000
Direct materials used in production	290,000
Raw materials inventory, beginning	11,400
Corporate administrative costs	22,500
Selling expenses	16,500
Sales	389,000
Total manufacturing overhead applied	45,300
Total manufacturing overhead incurred	49,100
Finished goods, beginning	21,400
Work in process inventory, beginning	31,800
Work in process inventory, ending	28,700
Direct labor cost incurred	42,300
Finished goods, ending	23,500

How much is cost of goods manufactured for June?

- A. \$348,900  
 B. \$377,600  
 C. \$380,700  
 D. \$384,500
51. Tranham, Inc. uses a job-order costing system. It reported the following amounts for March:

Work in process, March 1	\$38,000	Finished goods, March 1	\$14,000
Work in process, March 31	35,000	Finished goods, March 31	17,500
Cost of goods manufactured	169,000	Raw materials, March 1	12,300
Direct labor used	64,000	Raw materials, March 31	12,000
Selling costs incurred	32,000	Direct materials used	63,000

How much of the above amounts will Tranham report on its balance sheet at the end of March?

- A. \$64,500  
 B. \$233,500  
 C. \$192,500  
 D. \$169,000
52. Tranham, Inc. uses a job-order costing system. It reported the following amounts for March:

Work in process, March 1	\$38,000	Finished goods, March 1	\$14,000
Work in process, March 31	35,000	Finished goods, March 31	17,500
Cost of goods manufactured	169,000	Raw materials, March 1	12,300
Direct labor used	64,000	Raw materials, March 31	12,000
Selling costs incurred	32,000	Direct materials used	63,000

How much will Tranham report as cost of goods sold for the month of March?

- A. \$169,000  
 B. \$172,000  
 C. \$183,000  
 D. \$165,500



53. On December 31, 2017, Barnett Tools has a balance in the Work in Process Inventory account of \$62,000. On January 1, 2017, the balance in Work in Process Inventory was \$55,000. Current manufacturing costs for the year are \$292,000, and cost of goods sold is \$284,000. How much is cost of goods manufactured?
- A. \$292,000
  - B. \$299,000
  - C. \$277,000
  - D. \$285,000
54. Palm Works Inc. has a beginning balance in the Work in Process Inventory account of \$20,000. Current manufacturing costs for the period are \$325,000. The ending balance in the Work in Process Inventory account is \$23,000. How much is cost of goods manufactured?
- A. \$322,000
  - B. \$328,000
  - C. \$348,000
  - D. Not enough information is provided
55. If the balance in the Finished Goods Inventory account is increased by \$34,000 during the period and the cost of goods manufactured was \$321,000, how much is cost of goods sold?
- A. \$287,000
  - B. \$321,000
  - C. \$355,000
  - D. Not enough information is provided
56. The balance in the Finished Goods Inventory account on July 31, 2017, was \$41,000 and the June 30, 2017, balance in the Finished Goods Inventory account was \$34,000. Cost of goods sold is \$200,000 and direct materials used in production total \$86,000. How much is cost of goods manufactured?
- A. \$286,000
  - B. \$193,000
  - C. \$207,000
  - D. Not enough information is provided.
57. Ink Technology's Work in Process Inventory account has a beginning balance of \$50,000 and an ending balance of \$40,000. Direct materials used are \$70,000 and direct labor incurred totals \$35,000. Cost of goods sold totals \$135,000. Manufacturing overhead applied is \$20,000. How much is cost of goods manufactured?
- A. \$145,000
  - B. \$115,000
  - C. \$125,000
  - D. \$135,000

58. DynaSpa manufactures solar spa heaters and employs a job-order costing system. Beginning raw materials totaled \$4,200 and beginning work in process totaled \$6,700. Ending work in process totaled \$7,700. During October, DynaSpa's transactions and accounts included the following:

Raw materials acquired	\$91,000
Manufacturing overhead applied	34,000
Direct materials requisitioned and transferred to production	65,400
Cost of goods manufactured	331,000

How much is the amount of the current manufacturing costs?

- A. \$332,000  
 B. \$99,400  
 C. \$430,400  
 D. Not enough information is provided
59. Sanitize Systems had current production costs of \$211,000 for March. Inventories were as follows:

	<u>Beginning</u>	<u>Ending</u>
Raw material	\$13,000	\$9,000
Work in Process	\$14,000	\$15,000
Finished Goods	\$18,000	\$16,000

How much is the cost of goods manufactured?

- A. \$213,000  
 B. \$212,000  
 C. \$210,000  
 D. Not enough information is provided
60. Watson Specialties bought \$100,000 of raw materials during June, incurred \$90,000 in direct labor cost, and applied \$130,000 in manufacturing overhead. Inventories for June were as follows:

	<u>Beginning</u>	<u>Ending</u>
Raw material	\$22,000	\$24,000
Work in Process	\$23,000	\$19,000
Finished Goods	\$32,000	\$31,000

How much is cost of goods sold for June?

- A. \$323,000  
 B. \$322,000  
 C. \$324,000  
 D. \$325,000

61. The following information has been collected from Harper Tools' accounting records for the month of April:

Direct materials added to Work in Process Inventory	\$ 160,000
Indirect materials added to Manufacturing Overhead	40,000
Direct labor added to Work in Process Inventory	150,000
Indirect labor added to Manufacturing Overhead	65,000
Manufacturing overhead added to Work in Process Inventory	100,000
Depreciation Expense added to Manufacturing Overhead	50,000
Cost of Goods Sold	340,000
Cost of Goods Manufactured	380,000

What is the amount of the current manufacturing costs?

- A. \$410,000  
 B. \$565,000  
 C. \$500,000  
 D. \$550,000
62. Reason Apparel applied overhead totaling \$140,000 during March. Inventories were as follows:

	<u>Beginning</u>	<u>Ending</u>
Raw material	\$15,000	\$21,000
Work in Process	\$24,000	\$26,000
Finished Goods	\$11,000	\$15,000

How much is cost of goods manufactured?

- A. \$138,000  
 B. \$136,000  
 C. \$140,000  
 D. Not enough information provided
63. During the month of August, Ross MotorCo applied overhead to jobs using an overhead rate of \$0.80 per dollar of direct labor. Direct labor incurred in August was \$138,000. Estimated overhead in August was \$112,800. Actual overhead was composed of the following items:

Indirect materials	\$ 16,400
Indirect labor	24,900
Utilities	24,500
Depreciation	38,700
Repair expense	<u>13,500</u>
Total	<u>\$118,000</u>

How much will be recorded as a debit to Work in Process for overhead during the year for Ross MotorCo?

- A. \$112,800  
 B. \$118,000  
 C. \$110,400  
 D. More information is needed to answer

64. During the month of August, Ross MotorCo applied overhead to jobs using an overhead rate of \$0.80 per dollar of direct labor. Direct labor in August was \$138,000. Estimated overhead in August was \$112,800. Actual overhead was composed of the following items:

Indirect materials	\$ 16,400
Indirect labor	24,900
Utilities	24,500
Depreciation	38,700
Repair expense	<u>13,500</u>
Total	<u>\$118,000</u>

How much will Ross MotorCo record as a debit to Manufacturing Overhead during the year?

- A. \$112,800  
 B. \$118,000  
 C. \$110,400  
 D. More information is needed to answer
65. A job-order costing system is most likely to be used by a  
 A. soft-drink bottler.  
 B. breakfast cereal manufacturer.  
 C. paint manufacturer.  
 D. caterer.
66. Which of the following companies will most likely use a process costing system?  
 A. A company that produces recycle bins  
 B. A company that designs and bakes wedding cakes  
 C. An ambulance service  
 D. An attorney that handles divorce cases
67. Companies that use process costing systems  
 A. generally produce large quantities of identical items.  
 B. trace costs to specific items produced.  
 C. accumulate costs by completed products rather than by departments.  
 D. All of these answer choices are correct.
68. When work is completed on a job, costs for the completed job are found in which of the following accounts?  
 A. Cost of Goods Manufactured  
 B. Work in Process Inventory  
 C. Finished Goods Inventory  
 D. Cost of Goods Sold
69. Which of the following statements about job-order costing is **not** true?  
 A. Materials are traced to jobs using materials requisition forms.  
 B. Indirect labor is traced to jobs using time tickets.  
 C. Manufacturing overhead cannot be traced directly to jobs, so it is assigned using an overhead allocation rate.  
 D. Manufacturing overhead costs are applied to jobs by crediting the Manufacturing Overhead account and debiting it to Work in Process Inventory.

70. Load King Manufacturing transferred \$265,000 of costs from the Work in Process Inventory account to the Finished Goods Inventory account during the month. The company's inventory balances follow:

	<u>Beginning</u>	<u>Ending</u>
Work in Process	\$22,000	\$25,400
Finished Goods	\$31,500	\$29,200

How much is cost of goods sold for the month?

- A. \$262,700  
 B. \$261,600  
 C. \$267,300  
 D. Not enough information is provided
71. In April, Walston Enterprises had the following results:

Beginning Finished Goods Inventory	\$17,400
Ending Finished Goods Inventory	\$25,400
Sales	\$965,000
Gross Margin	\$450,000

How much is Cost of Goods sold for April?

- A. \$458,000  
 B. \$515,000  
 C. \$507,000  
 D. \$423,000
72. Title Audio manufactures industrial sound systems and employs a job-order costing system. During June, Title Audio's transactions and accounts included the following:

Raw materials purchased	\$126,000
Direct labor cost incurred	34,000
Total manufacturing overhead applied	42,100
Raw Materials Inventory, beginning	12,500
Raw Materials Inventory, ending	11,600
Finished Goods Inventory, beginning	10,400
Work in Process Inventory, beginning	13,000
Work in Process Inventory, ending	14,100
Total manufacturing overhead incurred	44,300

How much is the cost of direct materials issued to production during June?

- A. \$126,900  
 B. \$126,000  
 C. \$125,100  
 D. None of these answer choices are correct

73. Winslow Windows manufactures custom windows for high rise buildings and employs a job-order costing system. During June, Winslow's transactions and accounts included the following:

Raw materials purchased	\$106,000
Direct labor cost incurred	42,000
Total manufacturing overhead applied	35,800
Raw Materials Inventory, beginning	13,100
Raw Materials Inventory, ending	11,600
Finished Goods Inventory, beginning	9,000
Work in Process Inventory, beginning	13,000
Work in Process Inventory, ending	14,100
Total manufacturing overhead incurred	34,200

How much is the cost of goods manufactured for June?

- A. \$185,300  
 B. \$184,200  
 C. \$182,600  
 D. \$182,700
74. Dax Productions produces commercials for companies wishing to advertise on television. It uses job-order costing. Dax utilized annual estimates of overhead and machine hours in determining its overhead rate of \$1.50 per machine hour. Data from the month of June is as follows:

Factory rent	\$20,400
Direct labor	\$56,000
Factory depreciation	\$15,000
Administrative salaries	\$42,000
Indirect materials used in production	\$16,000
Direct materials used in production	\$11,500
Actual machine hours	33,000
Estimated machine hours	31,800

How much are total manufacturing costs added to Work in Process during the period?

- A. \$118,900  
 B. \$114,000  
 C. \$117,000  
 D. None of these answer choices are correct.
75. Olive Productions utilizes job-order costing for textbook production. It allocates overhead at a rate of 130% of direct labor costs. The following is data regarding three jobs:

	<b>Work in Process</b>		
	<b>balance</b>	<b>Costs added in February</b>	
	<b><u>On February 1</u></b>	<b><u>Direct Labor</u></b>	<b><u>Direct Materials</u></b>
Job #64	\$600	\$500	\$200
Job #65	\$700	\$300	\$300
Job #66	\$500	\$100	\$250

How much are total manufacturing overhead costs applied for February?

- A. \$3,510  
 B. \$900  
 C. \$1,440  
 D. \$1,170

76. Olive Productions utilizes job-order costing for textbook production. It allocates overhead at a rate of 130% of direct labor costs. The following is data regarding three jobs:

	<b>Work In Process</b>	<b>Costs added in February</b>	
	<b>balance</b>	<b>Direct Labor</b>	<b>Direct Materials</b>
	<b><u>On February 1</u></b>		
Job #64	\$600	\$500	\$200
Job #65	\$700	\$300	\$300
Job #66	\$500	\$100	\$250

Jobs #64 and #66 were completed and sold in February. How much is the balance in the Work in Process account at the end of February?

- A. \$990  
 B. \$1,690  
 C. \$1,650  
 D. \$1,300
77. Cost of goods manufactured equals \$44,000 for 2017. Finished goods inventory is \$2,500 at the beginning of the year and \$5,500 at the end of the year. Total manufacturing overhead applied is \$4,500. Beginning and ending work in process for 2017 are \$6,000 and \$5,000 respectively. How much is cost of goods sold for the year?
- A. \$41,000  
 B. \$47,000  
 C. \$43,000  
 D. More information is needed.
78. Occi-Predictions manufactures weather forecasting circuits for meteorologists and uses a job-order costing system. During June, Occi-Predictions accounts included the following balances and transactions:

Raw Materials Inventory, beginning	\$ 700	Direct materials purchased	\$45,000
Raw Materials Inventory, ending	4,850	Direct labor cost incurred	16,400
Manufacturing overhead cost applied	9,500	Administrative expenses	13,000
Marketing expenses	11,000	Work in Process Inventory, beginning	7,800
Sales	98,000	Work in Process Inventory, ending	6,600

How much is the cost of direct materials issued to production during June?

- A. \$45,000  
 B. \$45,700  
 C. \$49,150  
 D. \$40,850
79. Value Wood utilizes job-order costing. The company began the month of July with \$35,000 in raw materials. During the month \$300,000 of additional raw materials were purchased and \$295,000 of direct materials were requisitioned from the storeroom. How much will be reported on Value Wood's balance sheet for Raw Materials at the end of July?
- A. \$40,000  
 B. \$5,000  
 C. \$30,000  
 D. \$335,000

80. Occi-Predictions manufactures weather forecasting circuits for meteorologists machines and uses a job-order costing system. During June, Occi-Predictions accounts included the following balances and transactions:

Raw Materials Inventory, beginning	\$ 700	Direct materials purchased	\$45,000
Raw Materials Inventory, ending	4,850	Direct labor cost incurred	16,400
Manufacturing overhead cost applied	9,500	Administrative expenses	13,000
Marketing expenses	11,000	Work in Process Inventory, beginning	7,800
Sales	98,000	Work in Process Inventory, ending	6,600

How much is cost of goods manufactured?

- A. \$67,950  
 B. \$58,540  
 C. \$72,100  
 D. \$66,750
81. DynaMore applies overhead to each window cleaning job it provides to customers based on direct labor hours. Information concerning manufacturing overhead and labor for July follows:

Estimated direct labor	5,000 hours @ \$14.20 = \$71,000
Direct labor incurred	5,100 hours @ \$14.50 = \$73,950
Estimated manufacturing overhead	\$269,800
Actual manufacturing overhead	\$281,400

How much is the predetermined overhead rate?

- A. \$3.80  
 B. \$3.65  
 C. \$53.96  
 D. \$52.90
82. RedEx Shipping determined the rate to apply overhead based on direct labor hours would be \$5.40, and based on machine hours would be \$4.20. Job 664 used \$26.00 of direct materials, 2.5 machine hours, and 4 hours of direct labor at a cost of \$14 per hour. How much is the manufacturing cost of job 664 if RedEx Shipping applies overhead based on machine hours?
- A. \$92.50  
 B. \$10.50  
 C. \$21.60  
 D. \$103.60
83. National Production Company applies manufacturing overhead based on direct labor cost. Information concerning manufacturing overhead and labor for August follows:

	<u>Estimated</u>	<u>Actual</u>
Overhead cost	\$174,000	\$171,100
Direct labor hours	5,800	5,900
Direct labor cost	\$87,000	\$89,975

How much is the predetermined overhead rate?

- A. \$2.00  
 B. \$1.90  
 C. \$30.00  
 D. \$1.93



84. A form used to accumulate the cost of producing products is called a(n)
- A. job cost sheet.
  - B. material requisition.
  - C. time sheet.
  - D. purchase order.
85. Which of the following is true in a job-order costing system?
- A. Cost of goods sold will include the costs of all jobs that have been completed during the accounting period.
  - B. Work in Process Inventory will include the cost of all jobs that are currently completed and ready to deliver to customers.
  - C. Finished Goods Inventory will include the cost of all jobs that are completed but not yet shipped and sold.
  - D. Raw Materials Inventory will include the cost of jobs that have been started but are not yet completed.
86. An allocation base is
- A. a common activity that jobs share, which is used to spread the overhead costs among the various jobs.
  - B. the total amount of overhead assigned to a job.
  - C. used to estimate how many labor hours are needed to complete a job.
  - D. used to determine the total cost of a job completed during the period.
87. Direct labor hours are a good basis for applying overhead when
- A. most direct laborers are doing the same type of work and use about the same amount of low-level technology.
  - B. the process is very capital intensive.
  - C. labor is a very small part of total cost.
  - D. some labor is manual and other labor uses very expensive equipment.
88. Which of the following accounts is debited, when overhead is applied to jobs?
- A. Manufacturing Overhead
  - B. Finished Goods Inventory
  - C. Indirect Labor
  - D. Work in Process Inventory
89. When manufacturing overhead is applied to jobs, which of the following accounts is credited?
- A. Manufacturing Overhead
  - B. Work in Process Inventory
  - C. Accounts Payable
  - D. Raw Materials Inventory
90. When a job is sold, it is recorded with a
- A. debit to Work in Process Inventory and a credit to Finished Goods Inventory.
  - B. debit to Finished Goods Inventory and a credit to Work in Process Inventory.
  - C. debit to Cost of Goods Sold and a credit to Finished Goods Inventory.
  - D. debit to Work in Process Inventory and a credit to Cost of Goods Sold.

91. When a job is completed, the transaction is recorded with a
- debit to Work in Process Inventory and a credit to Cost of Goods Sold.
  - debit to Finished Goods Inventory and a credit to Work in Process Inventory.
  - debit to Cost of Goods Sold and a credit to Finished Goods Inventory.
  - debit to Work in Process Inventory and a credit to Finished Goods Inventory.
92. Which of the following is **not** a commonly used measure of activity for allocating overhead?
- Direct labor cost
  - Machine hours
  - Sales commissions
  - Direct labor hours
93. During the month of August, Ranson Productions applied overhead to jobs using an overhead rate of \$0.60 per dollar of direct labor. Actual direct labor in August was 12,000 hours at \$15.00 per hour, for a total of \$180,000. Estimated overhead in August was \$111,600. Actual overhead was composed of the following items:

Indirect materials	\$ 16,400
Indirect labor	22,000
Utilities	24,500
Depreciation	38,700
Repair expense	<u>13,500</u>
Total	<u>\$115,100</u>

How much overhead was applied during the year by Ranson Productions?

- \$108,000
  - \$115,100
  - \$111,600
  - More information is needed to answer
94. Which of the following is the most reasonable allocation base for a highly mechanized process?
- Direct labor hours
  - Machine hours
  - Direct materials cost
  - The number of different materials used to produce the product
95. To what should the allocation base used to apply overhead be most strongly associated?
- The cost of direct materials
  - The cost of direct labor
  - The estimated overhead cost
  - The total product cost
96. Predetermined overhead rates are calculated using
- actual overhead costs and actual levels of the allocation base.
  - estimated overhead costs and estimated levels of the allocation base.
  - actual overhead costs and estimated levels of the allocation base.
  - estimated overhead costs and actual levels of the allocation base.

97. The calculation for the predetermined overhead rate is
- estimated overhead cost times the estimated level of the allocation base.
  - estimated overhead cost divided by the estimated level of the allocation base.
  - estimated level of the allocation base divided by the estimated overhead cost.
  - estimated overhead cost minus the actual overhead cost.
98. For which period of time, the predetermined overhead rate is generally set in advance?
- A day, because costs can change on a daily basis
  - A week, because labor costs differ from week to week
  - A month, because job-order cost sheets are generated each month
  - A year, because of the need for the overhead rate to stay the same from month to month
99. Wilson Company applies overhead using machine hours as the allocation base, at a rate of \$15 per machine hour. Job 44 requires \$320 worth of material, 11 hours of labor at \$16 per hour and 9 machine hours. What is the cost of job 44?
- \$496
  - \$135
  - \$661
  - \$631
100. Savannah Factory applies manufacturing overhead based on direct labor cost. Information concerning manufacturing overhead and labor for August follows:

	<u>Estimated</u>	<u>Actual</u>
Overhead cost	\$174,000	\$171,100
Direct labor hours	5,800	5,900
Direct labor cost	\$87,000	\$89,975

How much overhead should be applied in total during August?

- \$179,950
  - \$174,000
  - \$177,000
  - \$171,100
101. Walsam Tools applies manufacturing overhead based on direct labor hours. Information concerning manufacturing overhead and labor for August follows:

	<u>Estimated</u>	<u>Actual</u>
Overhead cost	\$160,000	\$161,000
Direct labor hours	8,000	8,200
Direct labor cost	\$120,000	\$115,800

How much is the predetermined overhead rate?

- \$1.33
- \$20.00
- \$1.03
- \$19.63

102. If Duffy Company budgets total overhead costs for the next year of \$40,000 and anticipates using machine hours as the overhead allocation base, which of the following statements is true?
- A. If Duffy Company expects to use 60,000 machine hours, the predetermined overhead rate is \$1.50 per machine hour.
  - B. If Duffy Company expects to use 160,000 machine hours, the predetermined overhead rate is \$4.00 per machine hour.
  - C. If Duffy Company expects to use 80,000 machine hours, the predetermined overhead rate is \$0.50 per machine hour.
  - D. None of these answer choices are true

103. Builder Giant estimates the following overhead costs for 2017:

Equipment depreciation	\$ 30,000
Equipment maintenance	64,000
Factory management salaries	150,000
Factory rent	<u>50,000</u>
Total manufacturing overhead	<u>\$294,000</u>

Builder Giant incurred the following costs for 2017 for job A56:

Direct material	\$40,000
Direct labor	\$12,800

Other jobs incurred \$183,200 of direct labor. Builder Giant also budgeted \$210,000 in direct labor costs and 20,000 machine hours for 2017. Actual manufacturing overhead for 2017 was \$336,000. How much is the predetermined overhead rate using direct labor cost as the allocation base?

- A. \$14.70
- B. \$1.60
- C. \$1.50
- D. \$1.40

104. Wunder Builders estimates the following overhead costs for 2017:

Equipment depreciation	\$ 30,000
Equipment maintenance	64,000
Factory management salaries	150,000
Factory rent	<u>50,000</u>
Total manufacturing overhead	<u>\$294,000</u>

Wunder Builders incurred the following costs for 2017 for job 23:

Direct material	\$80,000
Direct labor	\$60,000

Wunder applies manufacturing overhead based on direct labor cost. Other jobs incurred \$320,000 of direct labor. Wunder Builders budgeted \$350,000 in direct labor costs and 20,000 machine hours for 2017. Actual manufacturing overhead for 2017 was \$300,000. How much overhead will Wunder Builders apply to job 23?

- A. \$168,800
- B. \$294,000
- C. \$58,800
- D. \$50,400

105. Sharp Tables produces go carts designed to a customer's specification with the customer's logo. Job 65 consists of producing 40 carts for Race Around for a new store opening. Overhead is applied on the basis of direct labor hours using a predetermined overhead rate of \$18 per hour. Job 65 incurred the following amounts:

Direct materials	\$2,200
Direct labor	28 hours at \$15 per hour

How much is the cost of Job 65?

- A. \$2,620  
B. \$3,124  
C. \$2,704  
D. \$604
106. Mudd Shoe Company has expected overhead costs of \$864,000. The majority of the overhead costs are incurred providing production support to the direct labor force. Direct labor rates vary from \$12 to \$21 per hour, and more complex tasks are assigned to more skilled workers who have higher pay rates. Management projects direct labor costs to be \$540,000 with 39,273 direct labor hours. More complex tasks require proportionally more support than do the less complex tasks.

Each model/size of shoe is produced in a separate production batch and constitutes a job. Mudd allocates overhead based on direct labor hours. During the year, the company produced 6,600 pairs of the size 8 Beachcomber shoes. A total of 4,200 direct labor hours, costing \$54,600, were assigned to the job. How much overhead will be assigned to the size 8 Beachcomber shoes?

- A. \$92,400  
B. \$87,360  
C. \$10,560  
D. \$57,750
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Each model/size of shoe is produced in a separate production batch and constitutes a job. Mudd allocates overhead based on direct labor cost. During the year, the company produced 6,600 pairs of the size 8 Beachcomber shoes. A total of 4,200 direct labor hours, costing \$54,600, were assigned to the job. How much overhead will be assigned to the size 8 Beachcomber shoes?

- A. \$92,400  
B. \$90,560  
C. \$87,360  
D. \$57,750

108. Haskell Construction began the month of July with jobs 60 and 63 completed and waiting to be shipped to customers. At the end of June, jobs 61, 64, and 65 were in production. During July, jobs 66, 67, 68, 69 and 70 were begun. The company completed Jobs 61, 65, 66, 68, and 69 during July. Jobs 60, 61, 63, 66, and 68 were shipped to customers during July. Which jobs are in Work in Process on July 31?
- A. 61, 65, 66, 68, and 69
  - B. 64, 67, and 70
  - C. 67 and 70
  - D. 65 and 69
109. Reef Shoe Company has expected overhead costs of \$864,000. The majority of the overhead costs are incurred providing production support to the direct labor force. Direct labor rates vary from \$12 to \$21 per hour, and more complex tasks are assigned to more skilled workers who have higher pay rates. Management projects direct labor costs to be \$540,000 with 39,273 direct labor hours. More complex tasks require proportionally more support than do the less complex tasks.
- Each model/size of shoe is produced in a separate production batch and constitutes a job. During the year, the company produced 6,600 pairs of the size 8 Beachcomber flip flop. A total of 4,200 direct labor hours, costing \$54,600, were assigned to the job. Which method of assigning overhead should management prefer?
- A. Direct labor cost is the preferred allocation base because workers paid a higher rate work on more complex jobs, and more complex jobs lead to more overhead cost.
  - B. Direct labor hours is the preferred allocation base because workers paid a higher rate work on more complex jobs, and more complex jobs lead to more overhead cost.
  - C. Direct labor cost is the preferred allocation base because it is not possible to track hours during which workers spend on each type of shoe produced.
  - D. Direct labor hours is the preferred allocation base because the number of hours incurred for each model of shoe is the same for each worker, regardless of the rate of pay each worker earns.
110. Haskell Construction began the month of July with jobs 60 and 63 completed and waiting to be shipped to customers. At the end of June, jobs 61, 64, and 65 were in production. During July, jobs 66, 67, 68, 69 and 70 were begun. The company completed Jobs 61, 65, 66, 68, and 69 during July. Jobs 60, 61, 63, 66, and 68 were shipped to customers during July. Which jobs are in Finished Goods Inventory on July 31?
- A. 64, 67, and 70
  - B. 60, 65, and 69
  - C. 65 and 69
  - D. 60, 63, 65, and 69
111. During 2017, Anhover Wedding Planners applied overhead using a job-order costing system at a rate of \$3.25 per direct labor hour. Estimated direct labor hours totaled 220,000 and estimated overhead was \$715,000 for the year. Actual direct labor hours for 2017 totaled 215,000 and actual overhead was \$702,000. What is the amount of under or overapplied overhead as of the end of 2017?
- A. \$13,000 overapplied
  - B. \$13,000 underapplied
  - C. \$16,250 underapplied
  - D. \$3,250 underapplied

112. Lansing Productions estimated it would use \$360 of materials and take 20 hours at \$14.50 per hour to complete job 456. It calculated a predetermined overhead rate of \$9.00 per direct labor hour. Job 456 required \$380 of material and took employees a total of 19.25 hours at a cost of \$15.20 per hour to complete the job. Actual manufacturing overhead costs totaled \$223,000 for the year for the company. How much is the cost of Job 456?
- A. \$173.25  
 B. \$553.25  
 C. \$845.85  
 D. \$823.25

113. Osprey Production uses job-order costing for batches of customer printed t-shirts. For job R45, the company incurred the following costs:

Direct materials used	\$4,235
Direct labor	\$1,300
Applied overhead	\$450

Actual overhead for Osprey for the month totaled \$24,840, based on a total of 2,300 shirts for the month. If Job R45 consisted of 570 shirts, how much is the cost per shirt for this job?

- A. \$10.80  
 B. \$14.95  
 C. \$10.50  
 D. \$15.25
114. Alex Constructors uses job-order costing for production of custom playground sets. The company incurred the following costs during March:

Direct materials used	\$22,000
Direct labor	\$14,000
Applied overhead	\$18,000
Actual overhead	\$20,000

If Alex Constructors closes out any under or overapplied overhead directly to cost of goods sold, which entry will the company make to eliminate the over or underapplied amount in March?

- A. Cost of Goods Sold 2,000  
     Work in Process Inventory 2,000
- B. Manufacturing Overhead 2,000  
     Work in Process Inventory 2,000
- C. Manufacturing Overhead 2,000  
     Cost of Goods Sold 2,000
- D. Cost of Goods Sold 2,000  
     Manufacturing Overhead 2,000

115. Assume that managers are rewarded for reducing product costs as calculated by the accounting system. In keeping with the theme that "you get what you measure," if a company switches its overhead application basis from direct labor hours to machine hours, what would you expect to happen?
- A. Machine hours will increase
  - B. Machine hours will decrease
  - C. Total costs will increase
  - D. Output will reduce
116. Why is overhead applied using a predetermined overhead rate?
- A. The actual amount of overhead is not determined until yearend and the company desires timely cost information.
  - B. Actual manufacturing overhead costs are often larger than expected.
  - C. It allows a company to overcost and undercost specific jobs as desired.
  - D. It helps to reduce the overhead cost for the company.
117. Brothers Construction uses a predetermined overhead rate of \$6.00 per direct labor hour. Budgeted overhead was \$720,000 and actual overhead incurred was \$700,000. Actual direct labor hours worked were 125,000 hours. How many labor hours did Brothers plan to work during the year?
- A. 120,000 hours
  - B. 116,667 hours
  - C. 20,833 hours
  - D. Cannot be determined from the information given
118. Ansley Products applies overhead using a predetermined overhead rate. Overhead is applied based on direct labor hours. At the beginning of the year, it is estimated that \$500,000 in overhead will be incurred and 25,000 hours will be worked. At year-end, the company had used 24,000 hours of labor, and actual overhead costs were \$470,000. What can be concluded from this?
- A. Cost control was good.
  - B. Overhead is overapplied by \$10,000.
  - C. Overhead is underapplied by \$10,000.
  - D. Overhead is applied at a rate of \$19.58 per hour
119. If the amount of underapplied overhead or overapplied overhead is small in amount, the Manufacturing Overhead account is closed to
- A. Raw Materials Inventory.
  - B. Work in Process Inventory.
  - C. Finished Goods Inventory.
  - D. Cost of Goods Sold.
120. Stalk Products has \$27,000 of underapplied overhead at the end of the year. Management has asked you what the impact on income will be if you prorate the underapplied overhead to the appropriate accounts. What will you tell them?
- A. Income will be higher if the underapplied overhead is prorated than if it is closed to Cost of Goods Sold.
  - B. Income will be lower if the underapplied overhead is prorated than if it is closed to Cost of Goods Sold.
  - C. Income will be the same regardless of which method is used.
  - D. The answer depends on the reason that the underapplied exists.



121. If the amount of underapplied overhead is large in amount, it is
- closed to Finished Goods.
  - apportioned between Raw Materials, Finished Goods, and Work in Process Inventory.
  - apportioned among Work in Process, Finished Goods, and Cost of Goods Sold.
  - closed to Cost of Goods Sold.
122. What is the impact of disposing any overapplied overhead between the appropriate accounts, if the amount is material?
- It will increase cost of goods sold, decrease income, and reduce inventory.
  - It will reduce cost of goods sold, increase income, and increase inventory.
  - It will reduce cost of goods sold, increase income, and reduce inventory.
  - It will increase cost of goods sold, decrease income and increase inventory.
123. Factory Containers allocates overhead based on machine hours. Estimated overhead costs for the year total \$68,000 and the company estimates that it will use 16,000 machine hours during the year. Actual overhead for the year was \$62,250 and the company used 15,000 machine hours. If Job J33 requires 420 machine hours, how much overhead will be allocated to Job J33?
- \$1,743
  - \$1,904
  - \$1,634
  - \$1,785
124. King Manufacturing estimated manufacturing overhead costs to be \$248,000 for the year, incurred manufacturing overhead costs of \$251,000, and applied overhead to jobs in the amount of \$253,000. How much is the amount of overapplied or underapplied overhead?
- \$2,000 overapplied
  - \$5,000 overapplied
  - \$3,000 underapplied
  - \$2,000 underapplied
125. Juarez, Inc. designs and manufactures custom cabinets. The company uses a job-order costing system, and the allocates overhead at \$18 per direct labor hour. Over or underapplied overhead is not material. During May, Juarez's transactions included the following:

Direct labor cost incurred at \$15 an hour	\$5,400
Manufacturing overhead cost incurred	6,800
Direct materials purchased	11,500
Raw materials inventory, beginning	160
Raw materials inventory, ending	280
Sales	23,000
Selling expenses	2,100
Work in process inventory, beginning	220
Work in process inventory, ending	250

How much is over or underapplied overhead for May?

- \$320 underapplied
- \$1,400 overapplied
- \$6,800 underapplied
- More information is needed

126. Sandross, Inc. applies overhead based on direct labor cost using a job-order costing system. The company estimated the following annual amounts:

Estimated manufacturing overhead	\$42,000
Estimated direct labor	1,600 hours at \$15 per hour

Actual amounts for the year were:

Actual manufacturing overhead	\$44,000
Actual direct labor	1,550 hours at \$16 per hour

How much is over or underapplied overhead?

- A. \$600 underapplied
  - B. \$2,000 underapplied
  - C. \$3,313 underapplied
  - D. \$1,419 underapplied
127. Elm Street Company incurred \$440,000 direct labor costs this year. Manufacturing overhead was applied at a predetermined rate of \$5.50 per direct labor hour. The average hourly wage rate was \$16 per hour. If actual overhead incurred was \$160,000, what was the amount of overapplied or underapplied overhead?
- A. \$151,250 underapplied
  - B. \$8,750 underapplied
  - C. \$27,500 overapplied
  - D. \$151,250 overapplied
128. Rivertown Products applied overhead to jobs at a rate of \$10.00 per direct labor hour. If the budgeted manufacturing overhead was \$660,000 and the actual manufacturing overhead incurred was \$630,000, how much under or over applied overhead did Rivertown have?
- A. \$30,000 underapplied
  - B. \$30,000 overapplied
  - C. \$60,000 overapplied
  - D. Information provided is not sufficient to derive the answer
129. Harvard Binding had budgeted direct labor costs of \$870,000 and budgeted manufacturing overhead of \$304,500. It allocates manufacturing overhead based on direct labor costs. If actual direct labor costs were \$840,000 and actual manufacturing overhead costs were \$286,000, identify the true statement.
- A. The company applied more overhead than it incurred.
  - B. The company estimated less overhead than it applied.
  - C. The company incurred more overhead than it estimated.
  - D. The company estimated less overhead than it incurred.
130. Why is factory overhead 'applied' to products and jobs by manufacturing companies?
- A. Actual overhead costs can never be accurately determined for jobs.
  - B. Managers prefer job costs to be exact in amount for budgeting purposes.
  - C. It allows managers more timely determination of product costs during the manufacturing process.
  - D. It provides a more accurate cost of the job or products being processed.

131. At the end of the period, the Manufacturing Overhead account had a \$4,200 debit balance. The balances in the Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold were \$10,000, \$20,000, and \$70,000, respectively. Assuming that the balance in Manufacturing Overhead is considered material, which of the following is part of the journal entry to close the Manufacturing Overhead account at the end of the period?
- A \$4,200 debit to Finished Goods Inventory.
  - A \$4,200 debit to Cost of Goods Sold.
  - Debits to Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold for \$420, \$840, and \$2,940, respectively.
  - Debits to Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold for \$1,400 each
132. At the end of the period, the Manufacturing Overhead account had a \$21,000 debit balance. The balances in the Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold were \$10,000, \$20,000, and \$70,000, respectively. Assuming that the balance in Manufacturing Overhead is considered immaterial, which of the following is a part of the journal entry to close the Manufacturing Overhead account at the end of the period?
- A \$21,000 debit to Cost of Goods Sold.
  - A \$21,000 debit to Finished Goods Inventory.
  - Debits to Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold for \$7,000 each.
  - Debits to Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold for \$2,100, \$4,200, and \$14,700, respectively.
133. At the end of the period, Massive Designs had the following debit balances in its accounts.

Raw Materials Inventory	\$ 20,000
Work in Process Inventory	40,000
Finished Goods Inventory	60,000
Cost of Goods Sold	400,000
Manufacturing Overhead	8,000

Assuming the amount in Manufacturing Overhead is considered material, the entry to allocate Manufacturing Overhead will include a

- debit to Cost of Goods Sold for \$6,400.
  - debit to Cost of Goods Sold for \$8,000.
  - debit to Cost of Goods sold for \$6,154.
  - credit to Work in Process Inventory for \$6,400.
134. At the end of 2017, Harbin Toys had the following balances in its accounts

Raw Materials Inventory	\$ 12,000
Work in Process Inventory	30,000
Finished Goods Inventory	48,000
Cost of Goods Sold	360,000
Manufacturing Overhead (credit)	3,200

Assuming the amount in Manufacturing Overhead is considered immaterial, which of the following accounts will be credited for \$3,200 in eliminating the balance in the Manufacturing Overhead account?

- Raw Materials Inventory
- Work in Process Inventory
- Manufacturing Overhead
- Cost of Goods Sold

135. Actual manufacturing overhead incurred during the year was \$332,000 and manufacturing overhead applied to jobs was \$336,000. Assuming the balance in the Manufacturing Overhead account is considered immaterial, the journal entry to close the Manufacturing Overhead account will include a \$4,000 debit to
- Cost of Goods Sold.
  - Work in Process Inventory.
  - Manufacturing Overhead.
  - Finished Goods.

136. Overhead applied to jobs during the period was \$180,000. Actual overhead costs incurred were \$181,000. Budgeted overhead used to calculate the predetermined overhead rate was \$184,000. Which of the following is a correct entry to close the Manufacturing Overhead account assuming the under or overapplied overhead is immaterial?

A.	Manufacturing Overhead	1,000	
	Cost of Goods Sold		1,000
B.	Cost of Goods Sold	1,000	
	Manufacturing Overhead		1,000
C.	Manufacturing Overhead	3,000	
	Cost of Goods Sold		3,000
D.	Cost of Goods Sold	4,000	
	Manufacturing Overhead		4,000

137. Hanover Fence produces custom wrought iron fencing. At the end of 2017, the account balances indicated the following:

Raw Materials Inventory	\$ 18,000
Work in Process Inventory	74,000
Finished Goods Inventory	42,000
Cost of Goods Sold	384,000
Manufacturing Overhead (credit balance)	8,000

Hanover considers the balance of manufacturing overhead to be immaterial. How much will Hanover Fence report as Cost of Goods Sold on its income statement for the year ending December 31, 2017?

- \$376,000
- \$392,000
- \$384,000
- \$382,000

138. Walston's Designs produces custom portable spas. At the end of its accounting period, the account balances indicated the following:

Raw Materials Inventory	\$ 22,000
Work in Process Inventory	38,000
Finished Goods Inventory	62,000
Cost of Goods Sold	300,000
Manufacturing Overhead (credit balance)	9,000

Walston's Designs considers the balance of manufacturing overhead to be material in amount. How much is the adjusted balance of Cost of Goods Sold to be reported by Walston on its income statement?

- A. \$300,000  
 B. \$293,250  
 C. \$306,750  
 D. \$294,313
139. Raindrop Gear utilizes job-order costing for production of customized umbrellas. Each division establishes its own estimates regarding overhead, which are as follows:

	<u>Division A</u>	<u>Division B</u>
Total estimated overhead	\$78,750	\$240,000
Total estimated machine hours	26,250	15,000
Total estimated direct labor costs	\$262,500	\$120,000

If Division A allocates overhead on the basis of direct labor costs, and Division B allocates overhead based on machine hours, what will be the predetermined overhead rate for each division?

- |    | <u>Division A</u>                      | <u>Division B</u>        |
|----|--|--------------------------|
| A. | \$3.00 per direct labor dollar         | \$16.00 per machine hour |
| B. | \$3.00 per machine direct labor dollar | \$0.625 per machine hour |
| C. | \$0.30 per machine direct labor dollar | \$16.00 per machine hour |
| D. | \$0.30 per machine direct labor dollar | \$2.00 per machine hour  |
140. Kamins Company uses a predetermined overhead rate of \$6.00 per machine hour. Overhead was underapplied by \$40,000 for the year, and actual machine hours totaled 70,000. How much was the actual overhead cost?
- A. \$460,000  
 B. \$380,000  
 C. \$420,000  
 D. \$360,000
141. Templeton Widgets applies manufacturing overhead based on direct labor hours. It budgeted 123,000 direct labor hours at \$11.50 per labor hour and incurred 125,000 direct labor hours at an actual total labor cost of \$1,500,000. It incurred \$720,000 of manufacturing overhead and estimated the manufacturing overhead cost to be \$707,250 for the period. What was the predetermined overhead rate?
- A. \$0.50  
 B. \$5.75  
 C. \$0.48  
 D. \$5.76

142. The balances in Dellco Company's accounts at the end of the period were:

Work in Process Inventory	\$ 40,000
Finished Goods Inventory	60,000
Cost of Goods Sold	300,000
Manufacturing Overhead (credit balance)	12,000

If the balance in the Manufacturing Overhead account is considered immaterial, which of the following represents the amounts that should be adjusted to the Work in Process Inventory account?

- A. \$0
  - B. Debit of \$12,000
  - C. Credit of \$12,000
  - D. Credit of \$9,000
143. Which of these service-type companies typically do **not** assign overhead costs to jobs when using a job-order costing system?
- A. Consulting firms
  - B. Hospitals
  - C. Repair shops
  - D. Law firms
144. In which country were just-in-time (JIT) systems first used?
- A. England
  - B. United States
  - C. Japan
  - D. Germany
145. If a company has zero beginning inventory and zero ending inventory which of the following is true?
- A. Cost of goods sold will equal cost of goods manufactured.
  - B. Cost of goods sold will be zero.
  - C. Cost of goods manufactured will be zero.
  - D. Inventory levels will fluctuate each period.
146. To which of the following is the goal of minimizing raw materials and work in process inventories considered to be a key objective?
- A. ABC
  - B. JIT
  - C. TQM
  - D. Computer-controlled manufacturing systems
147. Which of the following is true concerning computer-controlled manufacturing systems?
- A. They require a company to use a just-in-time inventory system.
  - B. They result in a decrease in direct labor costs.
  - C. They increase the variable costs and decrease fixed costs.
  - D. They require overhead to be allocated based on machine hours.
148. Which of the following is another name for the total quality management program?
- A. Just-in-time
  - B. Activity-based allocation
  - C. Lean manufacturing
  - D. Continuous quality improvement

149. Which of the following is **not** a component of a total quality management (TQM) program?
- Making products right the first time, which reduces rework and scrap costs
  - Listening to the customers' needs
  - Encouraging workers to continuously improve the production process
  - Reducing inventories to very small, or non-existent levels
150. What occurs when state of the art equipment is installed as part of incorporating a computer-controlled manufacturing system?
- Labor costs generally decrease.
  - Direct labor becomes a good allocation base.
  - Fixed costs will generally decrease.
  - All of these choices are correct

**Answers to Multiple Choice**

30	B	55	A	80	A	105	B	130	C
31	B	56	C	81	C	106	A	131	C
32	B	57	D	82	A	107	C	132	A
33	A	58	A	83	A	108	B	133	A
34	A	59	C	84	A	109	A	134	D
35	D	60	A	85	C	110	C	135	C
36	A	61	A	86	A	111	D	136	B
37	B	62	D	87	A	112	C	137	A
38	D	63	C	88	D	113	C	138	B
39	C	64	B	89	A	114	D	139	C
40	D	65	D	90	C	115	B	140	A
41	A	66	A	91	B	116	A	141	B
42	A	67	A	92	C	117	A	142	A
43	D	68	C	93	A	118	B	143	C
44	A	69	B	94	B	119	D	144	C
45	C	70	C	95	C	120	A	145	A
46	B	71	B	96	B	121	C	146	B
47	A	72	A	97	B	122	C	147	B
48	D	73	B	98	D	123	D	148	D
49	A	74	C	99	D	124	A	149	D
50	C	75	D	100	A	125	A	150	A
51	A	76	B	101	B	126	A		
52	D	77	A	102	C	127	B		
53	D	78	D	103	D	128	D		
54	A	79	A	104	D	129	A		

## MATCHING

151. Match each of the following terms with the phrase that most closely describes it. Each answer may be used only once.

- |  |  |
|--|--|
| <p>_____ 1. activity-based costing</p> <p>_____ 2. cost of goods available for sale</p> <p>_____ 3. cost of goods manufactured</p> <p>_____ 4. direct materials</p> <p>_____ 5. job-order costing system</p> <p>_____ 6. just-in-time system</p> <p>_____ 7. indirect materials</p> <p>_____ 8. manufacturing overhead</p> | <p>_____ 9. overapplied overhead</p> <p>_____ 10. period costs</p> <p>_____ 11. process costing system</p> <p>_____ 12. product costs</p> <p>_____ 13. total quality management</p> <p>_____ 14. underapplied overhead</p> <p>_____ 15. work in process</p> <p>_____ 16. predetermined overhead rate</p> |
|--|--|

- A. Method of assigning overhead costs that uses multiple allocation bases
- B. System that uses a job cost sheet to collect costs for each individual job
- C. Cost of all materials that are directly traced to the items produced
- D. Beginning balance in the Finished Goods Inventory plus cost of goods manufactured
- E. Overhead applied to products is greater than the actual overhead costs incurred
- F. Used by companies that produce large quantities of identical items
- G. Cost of all manufacturing activities other than direct material and direct labor
- H. Inventory account that contains the cost of goods that are only partially completed
- I. Program that encourages workers to constantly improve their production processes
- J. Amount determined at the beginning of the period to be used to apply overhead to production
- K. Costs assigned to the goods produced; also known as manufacturing costs
- L. Materials costs that are not traced directly to products produced
- M. System that seeks to minimize Raw Materials Inventory and Work in Process Inventory
- N. Cost of items that are completed and transferred from Work in Process Inventory to Finished Goods Inventory
- O. Costs that are identified with accounting periods rather than with goods produced
- P. Actual overhead is greater than overhead that has been applied to products

### Answers to Matching

- |      |      |       |       |
|------|------|-------|-------|
| 1. A | 5. B | 9. E  | 13. I |
| 2. D | 6. M | 10. O | 14. P |
| 3. N | 7. L | 11. F | 15. H |
| 4. C | 8. G | 12. K | 16. J |



**EXERCISES**

152. The following information is available for Lansing Closets for the fiscal year ending December 31, 2017.

Beginning balance in Finished Goods	\$ 12,000
Ending balance in Finished Goods	10,200
Beginning balance in Work in Process	15,500
Ending balance in Work in Process	17,200
Selling expenses	102,000
General and administrative expenses	67,000
Direct material cost incurred	54,000
Direct labor cost	71,000
Manufacturing overhead applied	36,300
Sales	367,000

Prepare a schedule of cost of goods manufactured for 2017.

**Answer**

Lansing Closets  
Schedule of Cost of Goods Manufactured  
For the Year Ended December 31, 2017

Beginning balance in work in process		\$ 15,500
Add current manufacturing costs:		
Direct material	\$54,000	
Direct labor	71,000	
Manufacturing overhead	<u>36,300</u>	<u>161,300</u>
Total		176,800
Less ending balance in work in process		<u>17,200</u>
Cost of goods manufactured		<u>\$159,600</u>

153. The following information is available for Lansing Closets for the fiscal year ending December 31, 2017.

Beginning balance in Finished Goods	\$ 12,000
Ending balance in Finished Goods	10,200
Beginning balance in Work in Process	15,500
Ending balance in Work in Process	17,200
Selling expenses	102,000
General and administrative expenses	67,000
Direct material cost incurred	54,000
Direct labor cost	71,000
Manufacturing overhead applied	36,300
Sales	367,000

Prepare an income statement for fiscal 2017. Ignore income taxes.

**Answer**

Lansing Closets  
Income Statement  
For the Year Ended December 31, 2017

Sales		\$367,000
Less cost of goods sold:		
Beginning finished goods	\$ 12,000	
Add cost of goods manufactured*	<u>159,600</u>	
Cost of goods available for sale	171,600	
Less ending finished goods	<u>10,200</u>	<u>161,400</u>
Gross profit		205,600
Less nonmanufacturing expenses:		
Selling expenses	102,000	
General & admin. expenses	<u>67,000</u>	<u>169,000</u>
Net income		<u>\$ 36,600</u>

\*\$15,500 + \$54,000 + \$71,000 + \$36,300 - \$17,200 = \$159,600

154. For the list of product manufacturers below, indicate whether a job-cost system (J) or a process cost system (P) would be most appropriate.

- \_\_\_\_\_ a. Jelly bean producer
- \_\_\_\_\_ b. Cereal producer
- \_\_\_\_\_ c. Custom kitchen cabinet builder
- \_\_\_\_\_ d. Oil refinery
- \_\_\_\_\_ e. Paint manufacturer
- \_\_\_\_\_ f. Accounting firm

**Answer**

- |    |   |    |   |
|----|---|----|---|
| a. | P | d. | P |
| b. | P | e. | P |
| c. | J | f. | J |

155. IT Consulting had the following labor time tickets for the month of March:

<u>Ticket #</u>	<u>Employee #</u>	<u>Hourly Pay Rate</u>	<u>Hours Worked</u>	<u>Job #</u>
456	16	\$10.00	32	201
457	19	21.00	30	202
458	8	14.00	21	202
459	11	20.00	28	204

- Calculate the amount of direct labor cost assigned to job 202.
- Prepare a journal entry to record direct labor for March for IT Consulting.

**Answer**

a.	30 hrs. × \$21/hour	\$630
	21 hrs. × \$14/hour	<u>294</u>
	Total	<u>\$924</u>

b.

<u>Ticket #</u>	<u>Employee #</u>	<u>Hourly Pay Rate</u>	<u>Hours Worked</u>	<u>Total Labor Cost</u>
456	16	\$10.00	32	\$ 320
457	19	21.00	30	630
458	8	14.00	21	294
459	11	20.00	28	<u>560</u>
			Total cost	<u>\$1,804</u>

Work in Process	1,804	
Wages Payable		1,804

156. Crystal Catering had three jobs in process as of January 1, 2017:

Job 47	\$2,500
Job 49	1,600
Job 50	3,600

In addition, Job 48 was completed and awaiting shipment on January 1, 2017. Its cost was \$5,600. During 2017, the company incurred the following costs:

Direct material	\$ 135,000
Direct labor	120,000
Manufacturing overhead	110,000

At the end of 2017, two jobs were in process with costs incurred as of December 31, 2017:

Job 56	\$5,200
Job 58	1,500

In addition, two jobs were completed and awaiting shipment at the end of 2017 with costs incurred as of December 31, 2017:

Job 55	\$1,300
Job 59	3,300

Calculate the following amounts:

- Beginning Work in Process
- Ending Work in Process
- Beginning Finished Goods
- Ending Finished Goods
- Cost of Goods Sold

**Answer**

1.  $\$2,500 + \$1,600 + \$3,600 = \$7,700$
2.  $\$5,200 + \$1,500 = \$6,700$
3.  $\$5,600$
4.  $\$1,300 + \$3,300 = \$4,600$
5.  $\$367,000$  computed as:

Beginning balance in work in process		\$ 7,700
Add current manufacturing costs:		
Direct material	\$ 135,000	
Direct labor	120,000	
Manufacturing overhead	<u>110,000</u>	<u>365,000</u>
Total		372,700
Less ending balance in work in process		<u>6,700</u>
Cost of goods manufactured		<u><u>\$366,000</u></u>
Beginning finished goods	\$ 5,600	
Add cost of goods manufactured	<u>366,000</u>	
Cost of goods available for sale	371,600	
Less ending finished goods	<u>4,600</u>	
Cost of goods sold		<u><u>\$367,000</u></u>

157. Special Installations allocates overhead based on a predetermined overhead rate of \$5.00 per direct labor hour. Job 25 required 5 tons of direct material at a cost of \$400.00 per ton and took employees who earn \$12.00 per hour a total of 65 hours to complete. What is the total cost of Job 25?

**Answer**

Direct materials	5 tons @ \$400	\$ 2,000
Direct labor	65 hours @ \$12	780
Manufacturing overhead	65 hours @ \$5	<u>325</u>
Total cost of job 25		<u><u>\$ 3,105</u></u>

158. Frinut Company estimates the following overhead costs for the coming year:

Equipment depreciation	\$250,000
Equipment maintenance	50,000
Supervisory salaries	20,000
Factory rent	<u>100,000</u>
Total	<u><u>\$420,000</u></u>

Frinut budgeted \$600,000 in direct labor costs and 14,000 machine hours for the coming year.

- a. Calculate the predetermined overhead rate using direct labor costs as the allocation base.
- b. Calculate the predetermined overhead rate using machine hours as the allocation base.
- c. Which of the allocation bases is preferred and why?

**Answer**

- a.  $\$420,000 / \$600,000 = \$ 0.70$  per direct labor dollar
- b.  $\$420,000 / 14,000$  machine hours = \$30.00 per machine hour
- c. Since most of the overhead costs are related to equipment as can be seen from the large amount of depreciation expense, machine hours is the preferred allocation base.

159. Barnett Brass allocates overhead based on machine hours. Estimated overhead costs for the year total \$420,000 and the company estimates that it will use 42,000 machine hours during the year. Barnett Brass used 41,600 machine hours during the year and incurred \$424,320 of overhead.
- What is the overhead application rate for the year?
  - What is the amount of applied overhead for the year?
  - What is the amount of under or overapplied overhead for the year? Label as over or underapplied.
  - Why does the result you obtained in part c above differ from the actual overhead cost?

**Answer**

- $\$420,000 \div 42,000 = \$10.00$  per machine hour
  - $\$10.00 \times 41,600 = \$416,000$
  - $\$424,320 - \$416,000 = \$8,320$  underapplied
  - Actual overhead was more than expected, but not proportionately so, since part of the overhead is probably fixed.
160. Ponder Plumbing uses job-order costing for each of its installations and repairs. Overhead is allocated based on the cost of plumber wages. At the start of the year, annual plumber wages were estimated to be \$275,000 based on 17,600 labor hours, and company overhead was estimated to be \$440,000.
- Briefly state why the use of a predetermined overhead rate would be preferred to assigning actual overhead to repair jobs.
  - Suppose a job required parts costing \$180 and plumber time costing \$1,800. How much will be the total cost of the job?

**Answer**

- If a company used actual overhead costs, the amount of incurred job costs would not be available until the end of the accounting period. If the company charges customers based on actual job cost, it would be unacceptable to wait until the end of the accounting period to bill customers.
- Overhead rate:  $\$440,000 \div \$275,000 = \$1.60$  per dollar of plumber wages  
Total job cost =  $\$180 + \$1,800 + (\$1,800 \times 1.6) = \$4,860$

161. Rooftop Solar estimated the following annual costs:

Expected annual direct labor hours	12,000
Expected annual direct labor cost	\$198,000
Expected machine hours	10,400
Expected material cost for the year	\$65,000
Expected manufacturing overhead	\$218,400

Job 612 used \$350 of direct materials, 26 direct labor hours, and 14 machine hours. Actual labor cost is \$17 per hour.

- If Rooftop Solar allocates overhead based upon machine hours, how much is the overhead rate?
- Determine the cost of job 612.

**Answer**

- a.  $\$218,400 \div 10,400 \text{ MH} = \$21 \text{ per machine hour}$
- b.
- |   |                |
|---|----------------|
| Direct materials                            | \$ 350         |
| Direct labor ( $\$17 \times 26$ )           | 442            |
| Manufacturing overhead ( $\$21 \times 14$ ) | <u>294</u>     |
| Total                                       | <u>\$1,086</u> |

162. During the month of August, Pamator Products applied overhead to jobs using an overhead rate of \$0.60 per dollar of direct labor. Direct labor in August was \$108,000. Actual overhead in August was \$65,200, and consisted of the following items:

Indirect materials	\$28,400
Indirect labor	7,900
Utilities	2,400
Depreciation	13,500
Repair expense	<u>13,000</u>
Total	<u>\$65,200</u>

- a. Prepare a journal entry to record overhead applied to jobs.
- b. Prepare a journal entry to record actual overhead.

**Answer**

- a. Overhead applied =  $\$0.60 \times \$108,000$  of direct labor = \$64,800

Work in Process	64,800	
Manufacturing Overhead		64,800

- b.
- |                          |        |               |
|--------------------------|--------|---------------|
| Manufacturing Overhead   | 65,200 |               |
| Raw Materials            |        | 28,400        |
| Wages Payable            |        | 7,900         |
| Utilities Payable        |        | 2,400         |
| Accumulated Depreciation |        | 13,500        |
| Repair Expense (or Cash) |        | <u>13,000</u> |

163. During the month of August, Winslow Chemicals applied overhead to jobs using an overhead rate of \$0.80 per dollar of direct labor. Direct labor in August was \$65,000. Actual overhead in August was \$51,200. Actual overhead was composed of the following items:

Indirect materials	\$ 21,200
Indirect labor	6,800
Utilities	1,400
Depreciation	12,500
Repair expense	<u>9,300</u>
Total	<u>\$51,200</u>

- a. Determine the balance in the Manufacturing Overhead account and prepare a journal entry to close the balance to cost of goods sold.
- b. Why is it important to close the balance in the Manufacturing Overhead account?
- c. What is the justification for assigning the balance in manufacturing overhead to Cost of Goods Sold rather than apportioning it to three accounts?

**Answer**

a. Overhead applied =  $\$0.80 \times \$65,000 = \$52,000$

Overapplied =  $\$52,000 - \$51,200 = \$800$

Manufacturing Overhead	800	
Cost of Goods Sold		800

b. Closing the balance in Manufacturing Overhead leads to product costs that are consistent with actual overhead costs rather than estimated overhead costs.

c. If the amount of underapplied or overapplied overhead is small, income will not be significantly distorted even if the entire balance is assigned to Cost of Goods Sold.

164. At the end of the period, Harris Renovators had the following balances in selected accounts:

Raw Materials Inventory	\$ 42,000
Work in Process Inventory	88,000
Finished Goods	64,000
Cost of Goods Sold	848,000
Manufacturing Overhead (debit balance)	21,000

a. Prepare the journal entry to close the Manufacturing Overhead account if the balance in the account is considered material.

b. Prepare the journal entry assuming the balance is considered to be immaterial.

**Answer**

a.

<u>Accounts</u>	<u>Balance</u>	<u>%</u>	<u>Overapplied</u>	<u>Adjustment</u>
Work in Process	\$ 88,000	8.8%	\$21,000	\$ 1,848
Finished Goods	64,000	6.4%	21,000	1,344
Cost of Goods Sold	<u>848,000</u>	84.8%	21,000	<u>17,808</u>
Total	<u>\$1,000,000</u>			<u>\$21,000</u>

Work in Process Inventory	1,848	
Finished Goods Inventory	1,344	
Cost of Goods Sold	17,808	
Manufacturing Overhead		21,000

b. Cost of Goods Sold	21,000	
Manufacturing Overhead		21,000

165. Window Tinters uses a job-order costing system. The balances at the end of the period for the selected accounts are as follows:

Raw Materials Inventory	\$ 82,000
Work in Process Inventory	156,000
Finished Goods Inventory	144,000
Cost of Goods Sold	1,200,000
Manufacturing Overhead (debit)	12,000

Prepare a journal entry to close the Manufacturing Overhead account assuming that the over or underapplied overhead is material.

**Answer**

<u>Accounts</u>	<u>Balance</u>	<u>%</u>	<u>Underapplied</u>	<u>Adjustment</u>
Work in Process	\$ 156,000	10.4%	\$12,000	\$ 1,248
Finished Goods	144,000	9.6%	12,000	1,152
Cost of Goods Sold	<u>1,200,000</u>	80.0%	12,000	<u>9,600</u>
Total	<u>\$1,500,000</u>			<u>\$12,000</u>

  

Work in Process	1,248	
Finished Goods	1,152	
Cost of Goods Sold	9,600	
Manufacturing Overhead		12,000

166. Cisco Pool Service cleans and maintains residential pools and spas. At the beginning of the year, the company estimated that it would incur \$480,000 of direct labor cost and \$288,000 of manufacturing overhead. Overhead is allocated to production on the basis of direct labor cost. Actual supplies (direct materials) used during the year were \$58,000, actual direct labor cost was \$465,000, and actual overhead was \$281,000.
- Calculate the overhead rate for the current year.
  - Prepare the journal entry to record use of direct materials.
  - Prepare the journal entry to record direct labor.
  - Prepare the journal entry to record manufacturing overhead applied to production.
  - Prepare the journal entry to close the balance in manufacturing overhead to cost of goods sold assuming over or underapplied overhead is considered to be material in amount.

**Answer**

- $\$288,000 \div \$480,000 = \$0.60$  per direct labor dollar
- |                         |        |        |
|-------------------------|--------|--------|
| Work in Process         | 58,000 |        |
| Raw Materials Inventory |        | 58,000 |
- |                 |         |         |
|-----------------|---------|---------|
| Work in Process | 465,000 |         |
| Wages Payable   |         | 465,000 |
- |                        |         |         |
|------------------------|---------|---------|
| Work in Process        | 279,000 |         |
| Manufacturing Overhead |         | 279,000 |
| (\$0.60 × \$465,000)   |         |         |
- |                         |       |       |
|-------------------------|-------|-------|
| Cost of Goods Sold      | 2,000 |       |
| Manufacturing Overhead  |       | 2,000 |
| (\$281,000 - \$279,000) |       |       |



**CHALLENGE EXERCISES**

167. Norris Decorators manufactures special order window coverings. During May, Norris's transactions included the following:

Work in process inventory, May 1	\$ 160	Sales	\$23,000
Factory equipment depreciation exp.	2,800	Selling expenses	2,100
Work in process inventory, May 31	240	Factory supervision wages expense	2,300
Raw materials purchased	11,500	Indirect labor cost incurred	400
Raw materials inventory, May 1	160	Factory utilities expense	900
Raw materials inventory, May 31	280	Direct labor cost incurred	5,400
Finished goods inventory, May 1	700	Finished goods inventory, May 31	950

- How much is the cost of direct materials issued to production during May?
- Show the product cost amounts that would be reported on Norris' balance sheet as of May 31, and describe the nature of each amount.

**Answer**

- $\$160 + \$11,500 - \$280 = \$11,380$
- |                     |                |
|---------------------|----------------|
| Raw materials       | \$ 280         |
| Work in process     | 240            |
| Finished goods      | <u>950</u>     |
| Total product costs | <u>\$1,470</u> |

Raw Materials Inventory includes the cost of materials on hand that are used to produce a company's products. No work has been initiated on these items. Work in Process represents the cost of goods that are partially complete and includes direct material, direct labor, and manufacturing overhead. The Finished Goods Inventory represents the cost of all items that are complete and ready to sell.

168. Howard Manufacturing applies manufacturing overhead to production at a rate of \$3 per direct labor hour. The following information is provided for the month of March in 2017:

Direct materials used in production	\$86,000
Direct labor	57,000
Product delivery costs (shipping to customers)	13,000
Factory janitor salary	31,000
Manufacturing overhead applied	94,100
Direct materials purchased	89,400
Indirect labor	10,000
Depreciation on factory building	32,000
Factory rental expense	21,000
Indirect materials	2,600
Sales commissions	20,000
Administrative expenses	54,000

- List the account names of all period costs. How does the identification of product costs differ from period costs?
- How much is the actual manufacturing overhead for March?
- Why is it necessary to allocate manufacturing overhead costs to products when it is not necessary to allocate other product costs?

**Answer**

- a. The period costs are: product delivery costs, sales commissions, and administrative expenses. Product costs are those costs assigned to goods produced and include direct material, direct labor, and manufacturing overhead, i.e., all costs necessary to get the inventory ready to sell. Period costs include all costs that are not product costs and are identified with accounting periods rather than goods produced.
- b.  $\$31,000 + \$10,000 + \$32,000 + \$21,000 + \$2,600 = \$96,600$
- c. Manufacturing overhead costs are not directly associated with specific goods produced. Managers need to know the amount of product costs are during the production process so they can make more timely decisions. Failure to allocate costs during the production process may cause managers to set selling prices at less than the total product cost, thereby producing operating losses.

169. Ryder Electric applies overhead based upon machine hours. Budgeted factory overhead was \$266,700 and budgeted machine hours were 19,050 for 2017. Actual machine hours totaled 18,700. The company treats under or overapplied overhead as immaterial in amount. Actual manufacturing overhead was \$265,400 for the year. Before disposition of the under- or overapplied overhead, Cost of Goods sold was \$415,000. Other account balances are:

Raw materials	\$40,000
Work in process	35,000
Finished goods	50,000

- a. Determine the amount of any over or underapplied overhead at the end of 2017 by posting the respective amounts to the T-account in which these amounts will be accumulated. Calculate the account balance and label as over- or underapplied.
- b. How much Cost of Goods sold will be reported on Ryder's income statement for 2017?
- c. Explain the nature of underapplied overhead and overapplied overhead as it relates to both actual and estimated overhead.

**Answer**

- a. Overhead rate =  $\$266,700 \div 19,050 = \$14.00$  per machine hour  
 Overhead applied =  $\$14.00 \times 18,700$  machine hours =  $\$261,800$

Manufacturing Overhead	
265,400	
	261,800
Underapplied	3,600

- b. Adjusted CGS balance =  $\$415,000 + \$3,600 = \$418,600$
- c. Underapplied overhead means that more manufacturing overhead costs were incurred than the amount of overhead that was allocated to production during the period. Overapplied overhead means that less manufacturing overhead costs were incurred than the amount of overhead that was allocated to production during the year. Estimated overhead is a budgeted amount and is not recorded in the accounting records. It is a budgeted amount used to determine the overhead rate. Actual overhead is the cost incurred for overhead costs related to production.

**SHORT-ANSWER ESSAYS**

170. Manufacturing costs are added to the Work in Process Inventory account as goods are manufactured. List and briefly describe the three categories of manufacturing costs.

**Answer**

The three categories of manufacturing costs are as follows:

- Direct materials: those materials and parts that are directly traced to the items produced
- Direct labor: the labor costs for those workers who are directly involved in the manufacturing process
- Manufacturing overhead: the cost of all manufacturing activities other than direct material and direct labor. This includes indirect materials, indirect labor, depreciation of factory equipment, utilities, and insurance on the manufacturing facility, among other items.

171. Costs can be classified as product costs or period costs. Define the term “product cost” and give at least two examples of costs that are considered product costs.

**Answer**

Product costs are also known as manufacturing costs and are those costs assigned to goods produced. These costs are an asset until the finished goods are sold, at which time these costs are expensed. Direct material, direct labor, and all the costs that are part of manufacturing overhead are product costs.

172. Define the term “period cost” and give at least two examples of costs that are considered period costs. Identify the timing of when period costs are recognized as expenses.

**Answer**

Period costs are identified with accounting periods rather than goods produced. Selling expenses and general and administrative expenses such as the CEO’s salary are period costs. They are recognized as expenses in the periods they are incurred.

173. What is a job-order costing system? What type of company would be most likely to use a job-order costing system?

**Answer**

A job-order costing system collects direct material, direct labor, and manufacturing overhead costs for specific, individual jobs. Job-order costing is used by construction companies, shipbuilding companies, services companies, and any company that manufactures unique goods or provides services to a customer’s specifications.

174. Why is a predetermined overhead rate preferred to an actual rate?

**Answer**

The predetermined overhead rate allows a company to cost products and jobs before the end of the period, thereby allowing for more timely decision making. It also allows a company to use the overhead rate for bidding on additional contracts or jobs.

2-44 **Test Bank** to accompany Jiambalvo *Managerial Accounting*, 6<sup>th</sup> Edition

175. Discuss the use of job-order costing by service companies. Give at least two examples of service companies that use job-order costing. How does the amount of each type of 'product' cost differ for service companies compared to typical manufacturing companies?

**Answer**

A service company that collects costs for each "job" uses job-order costing. Each patient in a hospital or health-care facility or a client of an accounting, legal, or consulting firm is considered a 'job' for which the costs of each job are accumulated. Service companies typically have little or no material costs, and significantly more overhead costs than companies that manufacture products.

176. Many companies are going to computer-controlled manufacturing systems. Identify what effect this has on a company's total fixed and total variable costs and on product costs as a whole.

**Answer**

Acquiring manufacturing equipment increases fixed costs because additional depreciation costs must be recognized on new machinery. Typically, the new machinery reduces labor costs because the machines are able to do the work that humans had performed in the past. This reduces a company's total variable costs. As a result of more efficient production, a company's overall product costs tend to decline.

177. Briefly explain the concepts of JIT and TQM. Are these ideas mutually exclusive or a company can use both?

**Answer**

A just-in-time system seeks to minimize the raw materials and work in process inventories by careful scheduling and the development of a smooth, flexible production system. A total quality management system encourages workers to reduce defects and continuously improve the production process. The two systems are not mutually exclusive, and companies may use some of the just-in-time tools in a TQM program.

178. A company may choose from several possible bases when allocating overhead costs. How does the company decide which allocation basis it will use?

**Answer**

A company should choose an allocation base that is strongly associated with the type of costs that make up manufacturing overhead. If most of the manufacturing overhead costs are related to equipment and facilities, machine hours is a reasonable allocation base. If the overhead costs are primarily labor-related, direct labor hours or direct labor costs are good choices for the allocation base.