

Chapter 17—Product Costing: Job and Process Operations

Solutions to Practice Quiz

1. These organizations usually have a high percent of their total assets invested in inventory:
- a. Merchandising and manufacturing organizations
 - b. Service and merchandising organizations
 - c. Merchandising organizations
 - d. Service organizations

Answer: *a*

Rationale: Manufacturing and merchandising organizations have a high percent of their total assets invested in inventory.

2. Direct materials, direct labor, and factory overhead are:
- a. Period costs
 - b. Conversion costs
 - c. Assigned to the cost of goods sold as production takes place
 - d. Product costs

Answer: *d*

Rationale: Direct materials, direct labor, and factory overhead are product costs assigned to Work-in-Process as production takes place.

3. Jared Company's formula for annual manufacturing overhead is:

$$Y = \$150,000 + \$8X, \text{ where } X \text{ is direct labor hours}$$

The predicted activity for 2017 is 40,000 direct labor hours and the actual activity for January of 2017 was 5,000 direct labor hours. Using a predetermined overhead rate the applied January overhead is:

- a. \$ 40,000
- b. \$ 58,750
- c. \$190,000
- d. \$208,750

Answer: *b*

Rationale: Predetermined overhead = $\$150,000 + (\$8 \times 40,000 \text{ labor hours}) = \$470,000$

Predetermined overhead rate = $\$470,000 / 40,000 \text{ labor hours} = \$11.75 \text{ per labor hour}$

Applied overhead = $\$11.75 \times 5,000 \text{ labor hours} = \underline{\underline{\$58,750}}$

4. This is the document used to accumulate the costs for a specific job, whether products are manufactured in single units or are produced in batches of identical units.
- Cost of production report
 - Production order
 - Bill of materials
 - Job cost sheet

Answer: *d*

Rationale: The job cost sheet serves as the basic record.

5. Following is information from the records of the Winnipeg Company for August:

Direct materials	\$ 60,000
Sales	450,000
Administrative and sales salaries	40,000
Direct labor	95,000
Production supervisors' salaries	10,000
Plant utilities	4,500
Office utilities	1,500
Plant depreciation	12,000
Office rent	2,000

Additional information:

- There were no beginning or ending inventories of Work-in-Process or Finished Goods
- Winnipeg does not use a predetermined overhead rate.

The August cost of goods sold is:

- \$171,500
- \$181,500
- \$225,000
- \$675,000

Answer: *b*

Rationale: Without WIP or FG inventories, the cost of goods sold equals the current manufacturing costs.

Direct materials		\$ 60,000
Direct labor		95,000
Manufacturing overhead:		
Production supervisors' salaries	\$10,000	
Plant utilities	4,500	
Plant depreciation	<u>12,000</u>	<u>26,500</u>
Cost of goods sold		<u>\$181,500</u>

6. Presented is selected information from Hook's September income statement and statement of cost of goods manufactured:

Cost of goods sold	\$180,000
Cost of goods manufactured	\$110,000
Finished goods inventory, September 30	\$ 30,000

Hook's finished goods inventory on September 1 was:

- a. \$ 80,000
- b. \$ 40,000
- c. \$100,000
- d. \$ 70,000

Answer: c

Rationale: Analysis of Finished Goods Inventory:

Sept 1	+	C of GM	–	C of GS	=	Sept 30
X	+	\$110,000	–	\$180,000	=	\$30,000

$$\text{Sept 1} = \$30,000 - \$110,000 + \$180,000 = \underline{\$100,000}$$

7. Presented is selected information from Barney's March statement of cost of goods manufactured.

Predetermined overhead rate	70 percent of direct labor dollars
Direct materials	\$ 46,000
Cost of goods manufactured	\$122,500

Barney's March direct labor was:

- a. \$78,200
- b. \$45,000
- c. \$76,500
- d. \$85,750

Answer: b

Rationale: Conversion costs = \$122,500 C of GM – \$46,000 DM = \$76,500

$$1.0 \text{ DL} + 0.7 \text{ DL} = \$76,500$$

$$\text{DL} = \$76,500 / 1.7 = \underline{\$45,000}$$

8. The beginning inventory consisted of 20,000 units, 40 percent complete and the ending inventory consisted of 12,000 units, 50 percent complete. There were 30,000 units started during the period. Determine the equivalent units of conversion in process.

- a. 32,000
- b. 38,000
- c. 20,000
- d. 44,000

Answer: *d*

Rationale: Units completed = $20,000 + 30,000 - 12,000 = 38,000$

Equivalent units in ending inventory = $12,000 \times 0.50 = 6,000$

Equivalent units of conversion in process = $38,000 + 6,000 = \underline{44,000}$

9. Presented is selected information from Macro Group cost of production report:

Cost per equivalent unit in process	\$15
Units completed	45,000
Total costs in process	\$765,000
Equivalent units of materials in ending inventory	7,000
Cost per equivalent unit of materials	\$10

The ending inventory of work-in-process is complete as to materials. The cost of conversion in the ending inventory is:

- a. \$20,000
- b. \$38,000
- c. \$70,000
- d. \$90,000

Answer: *a*

Rationale: Ending WIP = $\$765,000 - (45,000 \times \$15) = \$90,000$

Ending conversion in WIP = $\$90,000 - (7,000 \times \$10) = \underline{\$20,000}$