

# FINANCIAL STATEMENTS FOR A MANUFACTURING COMPANY

## Key Terms and Concepts to Know

### Cost Classifications on the Income Statement

- Retail companies have a single expense account on the Income Statement for the cost of inventory sold, Cost of Goods Sold.
- Manufacturing companies also have a single expense account on the Income Statement for the cost of inventory sold, Cost of Goods Sold.
- Cost of Goods Manufactured, a key component of Cost of Goods Sold for manufacturing companies, is the total cost of products produced in one period regardless of the period in which they are sold.

### Inventory Classifications on the Balance Sheet

- Retail companies have a single inventory account, Merchandise inventory, as they simply buy, hold and sell merchandise. Retail companies do not add value to the merchandise inventory they sell it.
- Manufacturing companies have three inventory accounts: raw materials inventory, work-in-process inventory and finished goods inventory. Manufacturing companies add value (conversion cost) to the raw materials inventory before selling the finished goods.
- (Raw) Materials inventory includes all the direct and indirect materials purchased but not yet used in the manufacturing or production process.
- Work-In-Process Inventory includes all the direct materials, direct labor and manufacturing overhead costs that have been added to the manufacturing process but for which production has not been completed.
- Finished Goods Inventory includes all manufacturing costs for products that have been completed but not sold.

### Basic Equation for an Inventory Account

- Recall from Financial Accounting that all general ledger accounts have the same basic equation:

beginning balance + additions – deductions = ending balance

OR

beginning balance + additions = deductions + ending balance

OR

“where did the costs come from” = “where did the costs go”

- Although each inventory account functions in the same manner, the additions and deductions are renamed to better describe the activity:

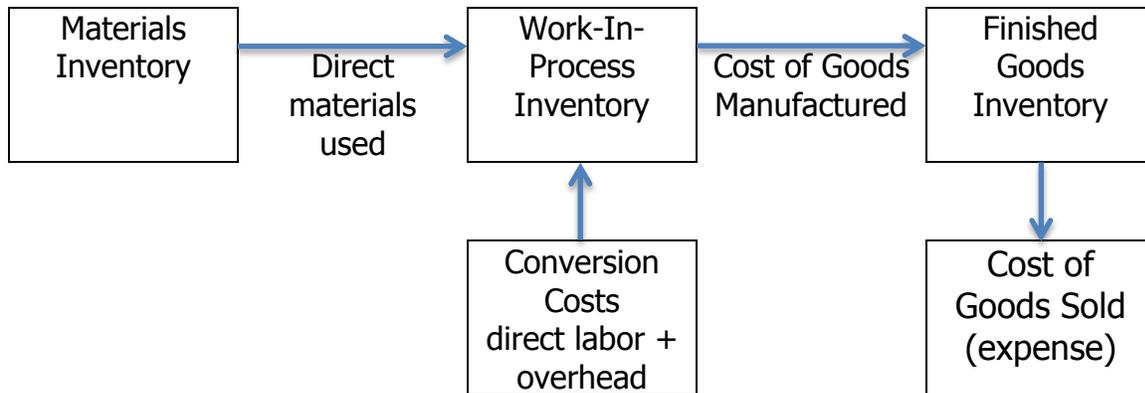
	MANAGERIAL ACCOUNTING			FINANCIAL ACCOUNTING
	<u>Materials</u>	<u>Work-In-</u>	<u>Finished Goods</u>	<u>Merchandise</u>
	<u>Inv.</u>	<u>Process Inv.</u>	<u>Inv.</u>	<u>Inventory</u>
	Beginning	Beginning	Beginning	Beginning
	balance	balance	balance	balance
Additions	+Purchases	+Direct materials +Direct labor +Overhead	+Cost of goods manufactured	+Purchases
Deductions	<u>-Materials</u> <u>used</u>	<u>-Cost of goods</u> <u>manufactured</u>	<u>-Cost of goods</u> <u>sold</u>	<u>-Cost of goods</u> <u>sold</u>
	=Ending balance	=Ending balance	=Ending balance	=Ending balance

- Since a retail company uses the activity in the merchandise inventory account to prepare its cost of goods sold statement, it follows that the manufacturing company would use the finished goods inventory account to prepare its cost of goods sold statement.
- The manufacturing company uses the activity in both the materials inventory and work-in-process accounts to prepare the cost of goods manufactured statement.

## Key Topics to Know

### Flow of Costs Through the Inventory Accounts

The relationship among the three inventory accounts is shown below.



- The Finished Goods inventory account for a manufacturing company and the Merchandise Inventory account for a retail company function in essentially the same way: costs of products to be sold are added to the account, cost of units sold are deducted from the account and the ending balance represents the cost of units that have not been sold.
- Manufacturing and retail companies use the information in the finished goods or merchandise inventory accounts to prepare the Statement of Cost of Goods Sold.
- The Materials Inventory and Work-In-Process inventory accounts record the costs incurred in the manufacturing process.
- Manufacturing companies use the information in the Materials Inventory and Work-In-Process inventory accounts to prepare the Statement of Cost of Goods Manufactured.
- The steps in preparing the statement of cost of goods manufactured are:
  - Determine the cost of direct materials used (from the raw materials inventory account)
  - Determine the total manufacturing costs incurred (from the additions to the work-in-process inventory account)
  - Determine the cost of goods manufactured (from the work-in-process inventory account)

**Example #1**

T Company has provided the following data for the month of July:

	<u>Beginning</u>	<u>Ending</u>
Work-in-process inventory	\$23,000	\$21,000
Finished goods inventory	26,000	35,000
	<u>July Activity</u>	
Direct materials used	\$56,000	
Direct labor incurred	91,000	
Manufacturing overhead	61,000	

- Required:
- a) Determine total manufacturing costs, cost of goods manufactured and cost of goods sold for July.
  - b) Total conversion costs

**Solution #1**

a)

Direct materials used	\$56,000
Direct labor incurred	91,000
Manufacturing overhead	<u>61,000</u>
Total manufacturing cost	\$208,000

Beginning work-in-process	\$23,000
Total manufacturing cost	208,000
Ending work-in-process	<u>21,000</u>
Cost of goods manufactured	\$210,000

Beginning finished goods	\$26,000
Cost of goods manufactured	210,000
Ending finished goods	<u>35,000</u>
Cost of goods sold	\$201,000

b)

Direct labor incurred	91,000
Manufacturing overhead	<u>61,000</u>
Total conversion cost	\$152,000

## Practice Problems

### **Practice Problem #1**

A partial listing of costs incurred during December at R Company appears below:

Factory supplies	\$7,000
Administrative wages	92,000
Direct materials	176,000
Sales staff salaries	32,000
Factory depreciation	2,000
Headquarters building rent	47,000
Indirect labor	23,000
Marketing expenses	136,000
Direct labor	82,000

Required: Determine total manufacturing overhead costs for December.

### **Practice Problem #2**

Management of W Company has provided the following financial information for September. Direct materials cost was \$57,000, direct labor cost was \$43,000, and manufacturing overhead was \$71,000. Selling expense was \$15,000 and administrative expense was \$32,000.

Required: Determine the conversion cost for September.

**Practice Problem #3**

J Company provided the following information regarding its first year of operations:

Administrative salaries	\$60,000
Factory depreciation	16,000
Indirect materials	4,000
Marketing expenses	40,000
Factory supervision salaries	28,000
Direct labor	80,000
Direct materials used	100,000
Research and development costs	32,000
Factory building rent	18,000
Sales revenues	432,000
Sales staff salaries	32,000
Headquarters building rent	17,000
Selling expenses	7,000

- Required:
- c) Total overhead costs
  - d) Total product costs
  - e) Total period costs
  - f) Total direct costs
  - g) Total indirect costs

**Practice Problem #4**

P Company has provided the following data for the month of March:

	<u>Beginning</u>	<u>Ending</u>
Raw materials inventory	\$25,000	\$30,000
Work-in-process inventory	16,000	18,000
Finished goods inventory	36,000	59,000
	<u>March Activity</u>	
Direct materials purchases	\$71,000	
Direct labor incurred	83,000	
Manufacturing overhead	74,000	
Indirect materials included in manufacturing overhead	5,000	

- Required: Prepare a Schedule of Cost of Goods Manufactured and a Schedule

of Cost of Goods Sold.

### **Practice Problem #5**

H Company reported the following data for the month of August:

	<u>Beginning</u>	<u>Ending</u>
Raw materials inventory	\$28,000	?
Work-in-process inventory	?	25,000
Finished goods inventory	37,000	55,000
	<u>August Activity</u>	
Direct materials purchases	\$72,000	
Cost of goods manufactured	307,000	
Direct labor incurred	112,000	
Cost of goods sold	?	
Total manufacturing cost	309,000	
Direct materials used	86,000	
Manufacturing overhead	?	

Required: Determine the missing values.

### **Practice Problem #6**

Information for the G Company for the month of January is as follows:

	<u>Beginning</u>	<u>Ending</u>
Raw materials inventory	\$8,000	\$8,700
Work-in-process inventory	2,100	3,200
Finished goods inventory	5,000	5,700
	<u>January Activity</u>	
Direct materials purchases	\$18,000	
Manufacturing overhead	15,000	
Direct labor	10,000	
Sales	55,300	
Selling and administrative expenses	6,300	

Required: Prepare a statement of cost of goods manufactured and an income statement for the month of January.

**Practice Problem #7**

D Company reported the following information on its income statements for the first quarter:

	<u>January</u>	<u>February</u>	<u>March</u>
Beginning Finished goods inventory	\$61,600	?	?
Cost of Goods Manufactured	229,000	?	531,400
Goods Available for Sale	?	260,000	?
Cost of Goods Sold	?	?	531,400
Ending Finished goods inventory	72,800	61,600	?

Required: Determine the missing values.

## True / False Questions

1. Total cost of goods purchased *minus* beginning merchandise inventory *plus* ending merchandise inventory *equals* cost of goods sold.  
True   False
2. Cost of goods sold includes the actual costs of the goods sold and the cost of selling them to the customer.  
True   False
3. The three categories of product costs are direct materials, direct labor, and manufacturing overhead.  
True   False
4. The cost of indirect materials used is recorded in finished goods inventory.  
True   False
5. Cost of Goods Manufactured represents the total direct materials, direct labor and overhead added to work-in-process inventory.  
True   False
6. The schedule of cost of goods manufactured is the same as the statement of cost of goods sold.  
True   False
7. The schedule of cost of goods manufactured is one of the month-end financial statements.  
True   False
8. Materials inventory consists of direct and indirect materials used.  
True   False
9. Indirect labor includes wages for all workers not classified as direct labor.  
True   False
10. Depreciation expense is always included in manufacturing overhead as it relates to equipment.  
True   False

## Multiple Choice Questions

1. On the Schedule of Cost of Goods Manufactured, the final Cost of Goods Manufactured figure represents:
  - a) The amount of cost charged to Work in Process during the period
  - b) The amount of cost transferred from Finished Goods to Cost of Goods Sold during the period
  - c) The amount of cost placed into production during the period
  - d) The amount of cost of goods completed during the current year whether they were started before or during the current year
  
2. A manufacturing company has a beginning finished goods inventory balance of \$14,600, cost of goods manufactured of \$32,500 and an ending finished goods inventory balance of \$17,800. The cost of goods sold is:
  - a) \$21,200
  - b) \$29,300
  - c) \$32,500
  - d) \$27,600
  
3. A manufacturing company has a beginning finished goods inventory balance of \$14,600, cost of goods manufactured of \$32,500 and an ending finished goods inventory balance of \$17,800. The total costs transferred from work-in-process inventory to finished goods inventory is:
  - a) \$21,200
  - b) \$29,300
  - c) \$32,500
  - d) \$27,600
  
4. R Company had finished goods inventory \$3,200 on January 1 and \$4,000 on December 31. During the year, cost of goods sold was \$14,200. Cost of goods manufactured was:
  - a) \$21,400
  - b) \$11,000
  - c) \$15,000
  - d) \$17,400

5. J Company had the following inventory balances for the year:

	January 1	December 31
Raw Materials	\$57,000	\$60,000
Work-in-process	68,000	50,000
Finished goods	79,000	40,000

Raw materials used in manufacturing during the year were \$118,000. Raw materials purchases during the year were:

- a) \$107,000
  - b) \$115,000
  - c) \$118,000
  - d) \$121,000
6. C Company reported the following information for the year:

Indirect materials	\$2,000
Beginning Raw Materials inventory	6,000
Indirect labor	5,000
Repairs of factory equipment	2,800
Direct labor cost	7,000

Total factory overhead costs were:

- a) \$9,800
  - b) \$16,800
  - c) \$22,800
  - d) \$14,000
7. A financial report that summarizes the amounts and types of costs incurred in the manufacturing process during the period is:
- a) Schedule of cost of goods sold
  - b) Schedule of cost of goods manufactured
  - c) Schedule of manufacturing costs
  - d) Schedule of managerial accounts
8. Total manufacturing costs incurred do not include:
- a) Direct materials used
  - b) Factory supplies used
  - c) Direct materials purchased
  - d) Indirect labor used

9. D Company reported the following information for the year:

Ending work-in-process inventory	\$4,000
Beginning work-in-process inventory	3,000
Factory overhead	5,100
Direct labor cost	7,000
Direct materials used	5,000

Manufacturing costs added to work-in-process inventory were:

- a) \$12,000
  - b) \$16,100
  - c) \$13,600
  - d) \$17,100
10. Which of the following represents the formula for calculating cost of goods manufactured?
- a) Direct materials used + direct labor + factory overhead + beginning work-in-process + ending work-in-process
  - b) Direct materials used + direct labor + factory overhead + beginning work-in-process - ending work-in-process
  - c) Direct materials used + direct labor + factory overhead - beginning work-in-process + ending work-in-process
  - d) Direct materials used + direct labor - factory overhead + beginning work-in-process - ending work-in-process

## Solutions to Practice Problems

### Practice Problem #1

Factory supplies	\$7,000
Factory depreciation	2,000
Indirect labor	<u>23,000</u>
Total Overhead	\$32,000

### Practice Problem #2

Direct labor	\$43,000
Manufacturing overhead	<u>71,000</u>
Total Conversion Cost	\$114,000

### Practice Problem #3

a)		
	Factory depreciation	\$16,000
	Indirect materials	4,000
	Factory supervision salaries	28,000
	Factory building rent	<u>18,000</u>
	Total overhead costs	\$66,000
b)		
	Direct materials used	\$100,000
	Direct labor	80,000
	Total overhead costs	<u>66,000</u>
	Total product costs	\$246,000
c)		
	Administrative salaries	\$60,000
	Marketing expenses	40,000
	Research and development costs	32,000
	Sales staff salaries	32,000
	Headquarters building rent	17,000
	Selling expenses	<u>7,000</u>
	Total period costs	\$188,000

d)		
	Direct materials used	\$100,000
	Direct labor	80,000
	Total direct costs	\$180,000

e)		
	Factory depreciation	\$16,000
	Indirect materials	4,000
	Factory supervision salaries	28,000
	Factory building rent	<u>18,000</u>
	Total indirect costs	\$66,000

### **Practice Problem #4**

#### Schedule of Cost of Goods Sold

Beginning finished goods inventory	\$36,000
Cost of goods manufactured	<u>216,000</u>
Goods available for sale	252,000
less: Ending finished goods inventory	<u>59,000</u>
Cost of goods sold	\$193,000

#### Schedule of Cost of Goods Manufactured

Beginning raw materials inventory	\$25,000
Direct materials purchases	<u>71,000</u>
Raw materials available for use	96,000
less: Ending raw materials inventory	<u>30,000</u>
Raw materials used	66,000
less: indirect materials used	<u>5,000</u>
Direct materials used	61,000
Direct labor incurred	83,000
Manufacturing overhead inventory	<u>74,000</u>
Total manufacturing cost	218,000
Beginning work-in-process inventory	<u>16,000</u>
	234,000
less: Ending work-in-process inventory	<u>18,000</u>
Cost of goods manufactured	\$216,000

**Practice Problem #5**

Beginning raw materials inventory	\$28,000
Direct materials purchases	72,000
Direct materials used	<u>86,000</u>
Ending raw materials inventory	\$14,000
Total manufacturing cost	\$309,000
less: Direct materials used	86,000
Direct labor incurred	<u>112,000</u>
Manufacturing overhead	<u>\$111,000</u>
Ending work-in-process inventory	\$25,000
Cost of goods manufactured	307,000
less: Total manufacturing cost	<u>309,000</u>
Beginning work-in-process inventory	\$23,000
Beginning finished goods inventory	\$37,000
Cost of goods manufactured	307,000
less: Ending finished goods inventory	<u>55,000</u>
Cost of goods sold	\$289,000

**Practice Problem #6**


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Schedule of Cost of Goods Manufactured

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Beginning raw materials inventory	\$8,000
Direct materials purchases	<u>18,000</u>
Raw materials available for use	26,000
less: Ending raw materials inventory	<u>8,700</u>
Direct materials used	17,300
Direct labor incurred	10,000
Manufacturing overhead	<u>15,000</u>
Total manufacturing cost	42,300
Beginning work-in-process inventory	<u>2,100</u>
	44,400
less: Ending work-in-process inventory	<u>3,200</u>
Cost of goods manufactured	\$41,200

### Income Statement

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Sales		\$55,300
Cost of Goods Sold:		
Beginning finished goods inventory	\$5,000	
Cost of goods manufactured	<u>41,200</u>	
Goods available for sale	46,200	
less: Ending finished goods inventory	<u>5,700</u>	
Cost of goods sold		<u>40,500</u>
Gross Profit		14,800
Selling and administrative expenses		<u>6,300</u>
Net Income		\$8,500

### **Practice Problem #7**

	<u>January</u>	<u>February</u>	<u>March</u>
Beginning Finished goods inventory	\$61,600	<b>72,800</b>	<b>61,600</b>
Cost of Goods Manufactured	<u>229,000</u>	<b>187,200</b>	<u>531,400</u>
Goods Available for Sale	<b>290,000</b>	260,000	<b>593,000</b>
Cost of Goods Sold	<b>217,200</b>	<b>198,400</b>	<u>531,400</u>
Ending Finished goods inventory	72,800	61,600	<b>61,600</b>

## Solutions to True / False Problems

1. False – Purchases + beginning inventory – ending inventory = cost of goods sold
2. False – cost of goods sold does not include selling expenses
3. True
4. False – indirect materials as part of overhead are recorded in work-in-process inventory
5. False – cost of goods manufactured are the costs added to finished goods inventory. Total manufacturing costs are the direct materials, direct labor and overhead added to work-in-process.
6. False – they are different statements.
7. False – the schedule of cost of goods manufactured is not a separate financial statement; it is part used to prepare the income statement.
8. False - materials inventory consists of direct and indirect materials purchased.
9. False - indirect labor includes wages for all manufacturing workers not classified as direct labor. Wages for workers in selling and administrative departments are classified as period costs.
10. False – only depreciation expense for assets used in the production process is included in manufacturing overhead.

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## Solutions to Multiple Choice Questions

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- 1. D
- 2. B
- 3. C
- 4. C
- 5. D
- 6. A
- 7. C
- 8. C
- 9. D
- 10. B