2-3 Cost Definitions

LO 3

Avery Corporation's northwestern factory provided the following information for the last calendar year:

Beginning inventory:	
Direct materials	$50,800
Work in process	58,500
Ending inventories:	
Direct materials	$21,500
Work in process	23,500

During the year, direct materials purchases amounted to $150,000, direct labor cost was $200,000, and overhead cost was $324,700. There were 100,000 units produced.

Required:

1. Calculate the total cost of direct materials used in production.
2. Calculate the cost of goods manufactured. Calculate the unit manufacturing cost.
3. Of the unit manufacturing cost calculated in Requirement 2, assume $1.70 is direct materials and $3.24 is overhead. What is the prime cost per unit? Conversion cost per unit?

Chapter 2 Homework Solutions

2–3

1. Direct materials used = $50,800 + $150,000 – $21,500 = $179,300

2.

Direct materials	$ 179,300
Direct labor	200,000
Overhead	324,700
Total manufacturing cost	$ 704,000
Add: Beginning WIP	58,500
Less: Ending WIP	(23,500)
Cost of goods manufactured	$ 739,000

Unit cost of goods manufactured = $739,000/100,000 = $7.39

3. Direct labor = $7.39 – $1.70 – $3.24 = $2.45
   Prime cost = $1.70 + $2.45 = $4.15
   Conversion cost = $2.45 + $3.24 = $5.69

Cost of Goods Manufactured and Sold

2-5

LO3

Beckman Company manufactures staplers. At the beginning of November, the following information was supplied by its accountant:

Direct materials inventory	$48,500
Work in process inventory	10,000
Finished goods inventory	10,075

During November, direct labor cost was $22,000, direct materials purchases were $70,000, and the total overhead cost was $216,850. The inventories at the end of November were:

Direct materials inventory	$15,900
Work in process inventory	6,050
Finished goods inventory	8,475

Required:

1. Prepare a cost of goods manufactured statement for November.
2. Prepare a cost of goods sold schedule for November.

2–5

1.

Beckman Company
Statement of Cost of Goods Manufactured
For the Month of November

Direct materials:		
Beginning inventory	$ 48,500	
Add: Purchases	70,000	
Materials available	$118,500	
Less: Ending inventory	(15,900)	
Direct materials used in production		$ 102,600
Direct labor		22,000
Manufacturing overhead		216,850
Total manufacturing costs added		$ 341,450
Add: Beginning work in process		10,000
Less: Ending work in process		(6,050)
Cost of goods manufactured		$ 345,400

2.

Beckman Company
Statement of Cost of Goods Sold
For the Month of November

Cost of goods manufactured	$ 345,400
Add: Beginning finished goods inventory	10,075
Cost of goods available for sale	$ 355,475
Less: Ending finished goods inventory	(8,475)
Cost of goods sold	$ 347,000

2-7 Cost of Goods Manufactured and Sold

LO3

Thomson Company, a manufacturing firm, has supplied the following information from its accounting records for the last calendar year:

Direct labor cost	$371,500
Purchases of direct materials	160,400
Freight-in on materials	1,000
Factory supplies used	37,800
Factory utilities	46,000
Commissions paid	80,000
Factory supervision and indirect labor	190,000
Advertising	23,900
Material handling	26,750
Work in process inventory, January 1	201,000
Work in process inventory, December 31	98,000
Direct materials inventory, January 1	47,000
Direct materials inventory, December 31	17,000
Finished goods inventory, January 1	28,000
Finished goods inventory, December 31	45,200

Required:

1. Prepare a cost of goods manufactured statement.
2. Prepare a cost of goods sold statement.

2–7

1.

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

Direct materials:		
Beginning inventory	$ 47,000	
Add: Purchases	160,400	
Freight-in on materials	1,000	
Materials available	$208,400	
Less: Ending inventory	(17,000)	
Direct materials used		$ 191,400
Direct labor		371,500
Manufacturing overhead:		
Material handling	$ 26,750	
Supplies	37,800	
Utilities	46,000	
Supervision and indirect labor	190,000	
Total overhead costs		300,550
Total manufacturing costs added		$ 863,450
Add: Beginning work in process		201,000
Less: Ending work in process		(98,000)
Cost of goods manufactured		$ 966,450

2.

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

Cost of goods manufactured	$ 966,450
Add: Beginning finished goods inventory	28,000
Cost of goods available for sale	$ 994,450
Less: Ending finished goods inventory	(45,200)
Cost of goods sold	$ 949,250

2-8 Income Statement, Cost Concepts, Service Company

LO2, LO3

Dorothy Gotay owns and operates three Compufix shops in the Boston area. Compufix repairs and upgrades computers on site. In August, purchases of materials equaled $9,750, the beginning inventory of materials was $850, and the ending inventory of materials was $950. Payments for direct labor during the month totaled $18,570. Overhead incurred was $15,000. The Boston shops also spent $5,000 on advertising during the month. Administrative costs (primarily accounting and legal services) amounted to $3,000 for the month. Revenues for August were $60,400.

Required:

1. What was the cost of materials used for repair and upgrade services during August?
2. What was the prime cost for August?
3. What was the conversion cost for August?
4. What was the total cost of services for August?
5. Prepare an income statement for August.

2–8

1.	Beginning inventory, materials	$ 850
	+ Purchases	9,750
	– Ending inventory, materials	(950)
	Materials used in production	$ 9,650

2. Prime cost = $9,650 + $18,570 = $28,220

3. Conversion cost = $18,570 + $15,000 = $33,570

4.	Direct materials	$ 9,650
	Direct labor	18,570
	Overhead	15,000
	Cost of services	$ 43,220

5.

Compufix
Income Statement
For the Month Ended August 31

Sales revenues	$ 60,400
Cost of services sold	43,220
Gross margin	$ 17,180
Operating expenses:	
Advertising	(5,000)
Administrative costs	(3,000)
Operating Income	$ 9,180

Income Statement, Cost of Goods Manufactured

2-15

LO2, LO3

Jordan Company produced 150,000 floor lamps during the past calendar year. Jordan had 2,500 floor lamps in finished goods inventory at the beginning of the year. At the end of the year, there were 11,500 floor lamps in finished goods inventory. The lamps sell for $50 each. Jordan's accounting records provide the following information for the past year:

Purchases of direct materials	$1,675,000
Direct materials inventory, January 1	380,000
Direct materials inventory, December 31	327,000
Direct labor	2,000,000
Indirect labor	790,000
Depreciation, factory building	1,100,000
Depreciation, factory equipment	630,000
Property taxes on the factory	65,000
Utilities, factory	150,000
Insurance on the factory	200,000
Research and development	120,000
Salary, sales supervisor	85,000
Commissions, salespersons	370,000
General administration	390,000
Work in process inventory, January 1	450,000
Work in process inventory, December 31	750,000
Finished goods inventory, January 1	107,500
Finished goods inventory, December 31	489,000

Required:

1. Prepare a cost of goods manufactured statement.
2. Compute the cost of producing one floor lamp last year.
3. Prepare an income statement on an absorption-costing basis.

2–15

1.

Jordan Company
Statement of Costs of Goods Manufactured
For the Year Ended December 31

Direct materials:		
Beginning inventory	$ 380,000	
Add: Purchases	1,675,000	
Materials available	$ 2,055,000	
Less: Ending inventory	(327,000)	
Direct materials used		$ 1,728,000
Direct labor		2,000,000
Manufacturing overhead:		
Insurance on factory	$ 200,000	
Indirect labor	790,000	
Depreciation, factory building	1,100,000	
Depreciation, factory equipment	630,000	
Property taxes on factory	65,000	
Utilities, factory	150,000	2,935,000
Total manufacturing costs added		$ 6,663,000
Add: Beginning work in process		450,000
Less: Ending work in process		(750,000)
Cost of goods manufactured		$ 6,363,000

2. Unit cost = $6,363,000/150,000 = $42.42

3.

Jordan Company
Income Statement: Absorption Costing
For the Year Ended December 31

Sales (141,000* × $50)		$ 7,050,000
Cost of goods sold:		
Cost of goods manufactured	$ 6,363,000	
Add: Beginning finished goods inventory	107,500	
Goods available for sale	$ 6,470,500	
Less: Ending finished goods inventory	489,000	5,981,500
Gross margin		$ 1,068,500
Less:		
Research and development	$ 120,000	
Salary, sales supervisor	85,000	
Commissions, salespersons	370,000	
Administrative expenses	390,000	965,000
Income before taxes		$ 103,500

*2,500 + 150,000 – 11,500 = 141,000 units sold.

2-16 Cost of Goods Manufactured, Cost Identification, Solving for Unknowns

LO1, LO3

CPA-Buster Company creates, produces, and sells CD-ROM-based CPA review courses for individual use. Lily Shultz, head of human resources, is convinced that question-development employees must have strong analytical and problem-solving skills. She asked Jeremy Slater, controller for CPA-Buster, to help develop problems to help screen applicants before they are interviewed. One of the problems Jeremy developed is based on the following data for a mythical company for the current year:

a. Conversion cost was $360,000 and was four times the prime cost.
b. Direct materials used in production equaled $75,000.
c. Cost of goods manufactured was $415,000.
d. Beginning work in process is one-half the cost of ending work in process.
e. There are no beginning or ending inventories for direct materials.
f. Cost of goods sold was 90 percent of cost of goods manufactured.
g. Beginning finished goods inventory was $16,500.

Required:

1. Calculate the cost of goods manufactured for the current year.
2. Calculate the cost of goods sold for the current year.

2–16

1.	Direct materials	$ 75,000
	Direct labor	15,000[a]
	Manufacturing overhead	345,000[a]
	Total manufacturing costs added	$ 435,000
	Add: Beginning work in process	20,000[b]
	Less: Ending work in process	(40,000)[b]
	Cost of goods manufactured	$ 415,000

[a]Conversion cost = 4 × Prime cost

$360,000 = 4(Direct materials + Direct labor)

$360,000 = 4($75,000 + Direct labor)

Direct labor = $15,000

Conversion cost = Overhead + Direct labor

$360,000 = Overhead + $15,000

Overhead = $360,000 – $15,000

Overhead = $345,000

[b]Ending WIP = 2 × Beginning WIP

$435,000 + Beg. WIP – (2 × Beg. WIP) = $415,000

Beginning WIP = $20,000; Ending WIP = 2 × $20,000 = $40,000

2.	Cost of goods manufactured	$ 415,000
	Add: Beginning finished goods	16,500
	Cost of goods available for sale.....	$ 431,500
	Less: Ending finished goods.....	(58,000)*
	Cost of goods sold	$ 373,500**

*Ending finished goods = $431,500 – $373,500 = $58,000

**COGS = 0.90 × $415,000 = $373,500