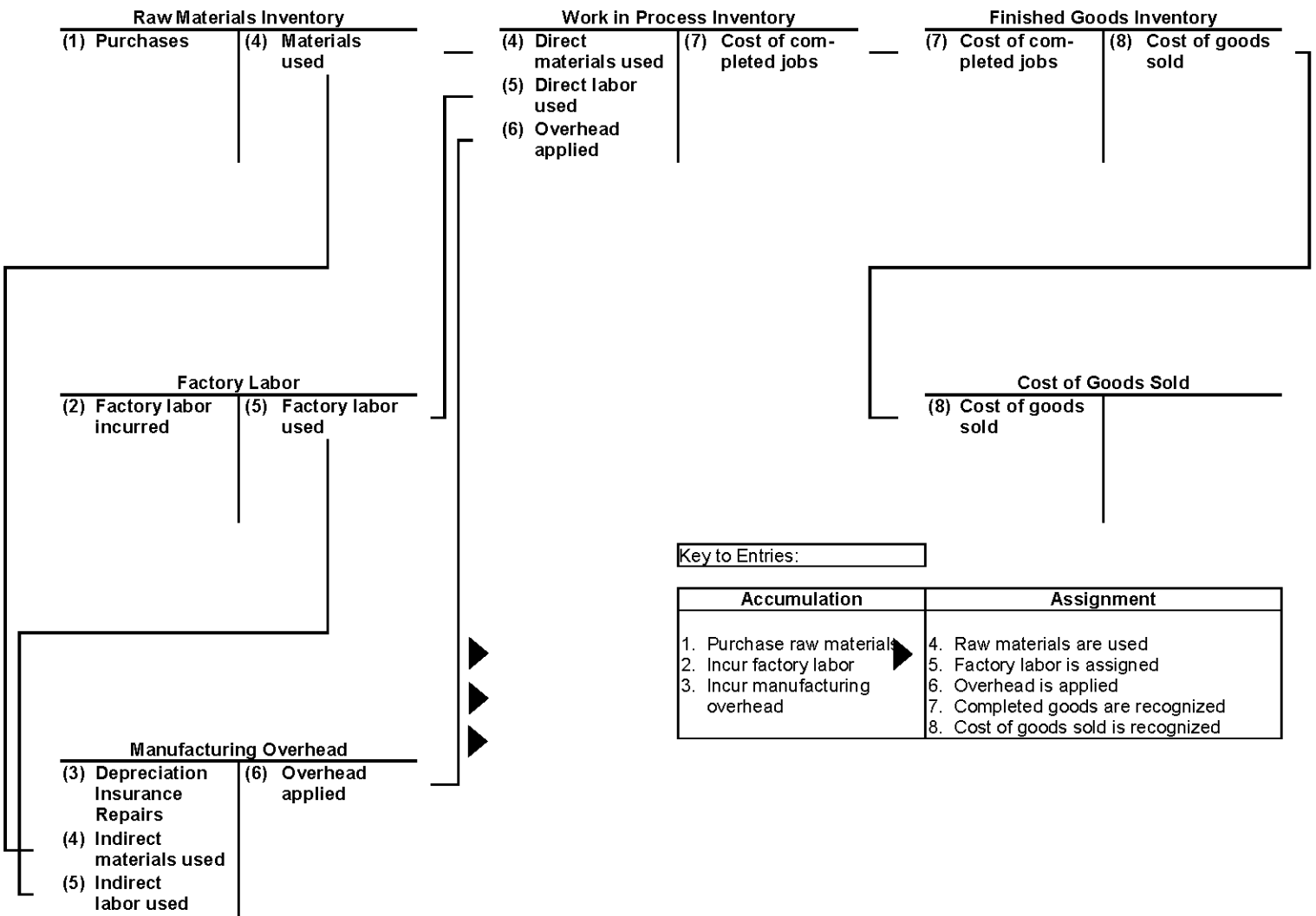


CHAPTER 2

Job Order Costing

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 2-1



BRIEF EXERCISE 2-2

Jan. 31	Raw Materials Inventory	4,000	
	Accounts Payable.....		4,000
31	Factory Labor	6,000	
	Factory Wages Payable.....		5,200
	Employer Payroll Taxes Payable.....		800
31	Manufacturing Overhead	2,000	
	Utilities Payable.....		2,000

BRIEF EXERCISE 2-3

Jan. 31	Work in Process Inventory	2,800	
	Manufacturing Overhead.....	600	
	Raw Materials Inventory.....		3,400

BRIEF EXERCISE 2-4

Jan. 31	Work in Process Inventory	5,200	
	Manufacturing Overhead.....	800	
	Factory Labor		6,000

BRIEF EXERCISE 2-5

Job 1		
Date	Direct Materials	Direct Labor
1/31	900	
1/31		2,200

Job 2		
Date	Direct Materials	Direct Labor
1/31	1,200	
1/31		1,600

Job 3		
Date	Direct Materials	Direct Labor
1/31	700	
1/31		1,400

BRIEF EXERCISE 2-6

Overhead rate per direct labor cost is 180%, or $(\$900,000 \div \$500,000)$.
 Overhead rate per direct labor hour is \$18, or $(\$900,000 \div 50,000 \text{ DLH})$.
 Overhead rate per machine hour is \$9, or $(\$900,000 \div 100,000 \text{ MH})$.

BRIEF EXERCISE 2-7

Jan. 31	Work in Process Inventory	28,000	
	Manufacturing Overhead		
	(\$40,000 X 70%).....		28,000
Feb. 28	Work in Process Inventory	21,000	
	Manufacturing Overhead		
	(\$30,000 X 70%).....		21,000
Mar. 31	Work in Process Inventory	35,000	
	Manufacturing Overhead		
	(\$50,000 X 70%).....		35,000

BRIEF EXERCISE 2-8

Mar. 31	Finished Goods Inventory	50,000	
	Work in Process Inventory		50,000
31	Cash	35,000	
	Sales Revenue		35,000
31	Cost of Goods Sold.....	20,000	
	Finished Goods Inventory		20,000

BRIEF EXERCISE 2-9

	Service Contracts in Process.....	28,000	
	Operating Overhead.....	8,000	
	Service Salaries and Wages		36,000
	Service Contracts in Process		
	(\$28,000 X .25).....	7,000	
	Operating Overhead		7,000

BRIEF EXERCISE 2-10

Shimeca Company			
Dec. 31	Cost of Goods Sold.....	1,200	
	Manufacturing Overhead		1,200
Garcia Company			
Dec. 31	Manufacturing Overhead.....	900	
	Cost of Goods Sold		900

SOLUTIONS FOR DO IT! REVIEW EXERCISES

DO IT! 2-1

(a)	Raw Materials Inventory.....	18,000	
	Accounts Payable		18,000
	(Purchases of raw materials on account)		
(b)	Factory Labor.....	40,000	
	Factory Wages Payable		31,000
	Employer Payroll Taxes Payable.....		9,000
	(To record factory labor costs)		
(c)	Manufacturing Overhead	15,300	
	Accumulated Depreciation—Buildings.....		9,500
	Utilities Payable.....		3,100
	Prepaid Property Taxes		2,700
	(To record overhead costs)		

DO IT! 2-2

The three summary entries are:

Work in Process Inventory (\$7,200 + \$9,000)	16,200	
Raw Materials Inventory		16,200
(To assign materials to jobs)		
Work Process Inventory (\$4,000 + \$8,000)	12,000	
Factory Labor		12,000
(To assign labor to jobs)		
Work in Process Inventory (\$5,200 + \$9,800)	15,000	
Manufacturing Overhead		15,000
(To assign overhead to jobs)		

DO IT! 2-3

The predetermined overhead for Washburn Company is:

$$\$200,000 \div 2,500 \text{ hours} = \$80.00$$

The amount of overhead assigned to number 551 would be:

$$90 \text{ hours} \times \$80.00 = \$7,200$$

The entry to record the assignment of overhead to job number 551 on January 15th is:

January 15	Work in Process Inventory	7,200	
	Manufacturing Overhead		7,200
	(To assign overhead to jobs)		

DO IT! 2-4

Finished Goods Inventory	120,000	
Work in Process Inventory		120,000
(To record completion of Job 310, costing \$70,000 and Job 312, costing \$50,000)		
Accounts Receivable	90,000	
Sales Revenue		90,000
(To record sale of Job 312)		
Cost of Goods Sold.....	50,000	
Finished Goods Inventory.....		50,000
(To record cost of goods sold for Job 312)		

DO IT! 2-5

Manufacturing overhead applied = $130\% \times \$85,000 = \$110,500$
Underapplied manufacturing overhead = $\$115,000 - \$110,500 = \$4,500$

SOLUTIONS TO EXERCISES

EXERCISE 2-1

(a)	Factory Labor.....	90,000	
	Factory Wages Payable		76,000
	Employer Payroll Taxes Payable		8,000
	Employer Fringe Benefits Payable		6,000
(b)	Work in Process Inventory (\$90,000 X 85%)	76,500	
	Manufacturing Overhead.....	13,500	
	Factory Labor		90,000

EXERCISE 2-2

(a)	May 31	Work in Process Inventory.....	10,400	
		Manufacturing Overhead.....	800	
		Raw Materials Inventory		11,200
	31	Work in Process Inventory.....	12,500	
		Manufacturing Overhead.....	1,200	
		Factory Labor		13,700
	31	Work in Process Inventory		
		(\$12,500 X 60%)	7,500	
		Manufacturing Overhead		7,500
	31	Finished Goods Inventory.....	7,540	
		Work in Process Inventory		7,540
		(\$2,000 + \$2,500 + \$1,900 + \$1,140*)		

*\$1,900 X 60%

(b)		Work in Process Inventory				
	May 1	Balance	3,500		May 31	7,540
	31		10,400			
	31		12,500			
	31		7,500			
	31		7,500			
	May 31	Balance	26,360			

EXERCISE 2-2 (Continued)

Job Cost Sheets					
Job No.	Beginning Work in Process	Direct Material	Direct Labor	Manufacturing* Overhead	Total
430	\$1,500	\$3,500	\$ 3,000	\$1,800	\$ 9,800
431	<u>0</u>	<u>4,400</u>	<u>7,600</u>	<u>4,560</u>	<u>16,560</u>
	<u>\$1,500</u>	<u>\$7,900</u>	<u>\$10,600</u>	<u>\$6,360</u>	<u>\$26,360</u>

*Direct labor X .60

EXERCISE 2-3

- (a) 1. \$15,200, or (\$5,000 + \$6,000 + \$4,200).
 2. Last year 70%, or (\$4,200 ÷ \$6,000); this year 80% (either \$6,400 ÷ \$8,000 or \$3,200 ÷ \$4,000).

(b)	Jan. 31	Work in Process Inventory	8,000	
		Raw Materials Inventory		8,000
	31	Work in Process Inventory	12,000	
		Factory Labor		12,000
	31	Work in Process Inventory	9,600	
		Manufacturing Overhead.....		9,600
	31	Finished Goods Inventory	44,800	
		Work in Process Inventory.....		44,800

EXERCISE 2-4

(a) + \$50,000 + \$42,500 = \$145,650

(a) = \$53,150

\$145,650 + (b) = \$201,500

(b) = \$55,850

\$201,500 – (c) = \$192,300

(c) = \$9,200

EXERCISE 2-4 (Continued)

[**Note:** The instructions indicate that manufacturing overhead is applied on the basis of direct labor cost, and the rate is the same in all cases. From Case A, a student should note the overhead rate to be 85%, or $(\$42,500 \div \$50,000)$.]

$$(d) = .85 \times \$140,000$$

$$(d) = \$119,000$$

$$\$83,000 + \$140,000 + \$119,000 = (e)$$

$$(e) = \$342,000$$

$$\$342,000 + \$15,500 = (f)$$

$$(f) = \$357,500$$

$$\$357,500 - \$11,800 = (g)$$

$$(g) = \$345,700$$

[**Note:** (h) and (i) are solved together.]

$$(i) = .85(h)$$

$$\$63,150 + (h) + .85(h) = \$213,000$$

$$1.85(h) = \$149,850$$

$$(h) = \$81,000$$

$$(i) = \$68,850$$

$$(j) = \$213,000 + \$18,000$$

$$(j) = \$231,000$$

$$\$231,000 - (k) = \$222,000$$

$$(k) = \$9,000$$

EXERCISE 2-5

(a) \$2.40 per machine hour $(\$300,000 \div 125,000 \text{ MH})$.

(b) $(\$322,000) - (\$2.40 \times 130,000 \text{ Machine Hours})$

$$\$322,000 - \$312,000 = \$10,000 \text{ underapplied}$$

(c) Cost of Goods Sold	10,000	
Manufacturing Overhead		10,000

EXERCISE 2-6

(a) (1) The source documents are:

Direct materials—Materials requisition slips.

Direct labor—Time tickets.

Manufacturing overhead—Predetermined overhead rate.

(2) The predetermined overhead rate is 125% of direct labor cost. For example, on July 15, the computation is $\$550 \div \$440 = 125\%$. The same result is obtained on July 22 and 31.

(3) The total cost is:

Direct materials	\$4,700
Direct labor	1,360
Manufacturing overhead.....	<u>1,700</u>
	<u>\$7,760</u>

The unit cost is \$3.10 ($\$7,760 \div 2,500$).

(b) July 31	Finished Goods Inventory.....	7,760	
	Work in Process Inventory		7,760

EXERCISE 2-7

1.	Raw Materials Inventory.....	46,300	
	Accounts Payable		46,300
2.	Work in Process Inventory.....	29,200	
	Manufacturing Overhead.....	6,800	
	Raw Materials Inventory		36,000
3.	Factory Labor.....	59,900	
	Factory Wages Payable		51,000
	Employer Payroll Taxes Payable		8,900
4.	Work in Process Inventory.....	54,000	
	Manufacturing Overhead.....	5,900	
	Factory Labor		59,900

EXERCISE 2-7 (Continued)

5.	Manufacturing Overhead.....	80,500	
	Accounts Payable		80,500
6.	Depreciation Expense	8,100	
	Accumulated Depreciation—Building		8,100
7.	Work in Process Inventory (\$54,000 X 150%)	81,000	
	Manufacturing Overhead		81,000
8.	Finished Goods Inventory.....	88,000	
	Work in Process Inventory		88,000
9.	Accounts Receivable.....	103,000	
	Sales Revenue.....		103,000
	Cost of Goods Sold	75,000	
	Finished Goods Inventory		75,000

EXERCISE 2-8

1.	Raw Materials Inventory.....	192,000	
	Accounts Payable		192,000
	Factory Labor.....	87,300	
	Factory Wages Payable		87,300
2.	Work in Process Inventory.....	153,530	
	Manufacturing Overhead.....	4,470	
	Raw Materials Inventory		158,000
	Work in Process Inventory.....	80,000	
	Manufacturing Overhead.....	7,300	
	Factory Labor		87,300
3.	Manufacturing Overhead.....	49,500	
	Accounts Payable		49,500

EXERCISE 2-8 (Continued)

4.	Manufacturing Overhead.....	14,550	
	Accumulated Depreciation—Equipment		14,550
5.	Depreciation Expense	14,300	
	Accumulated Depreciation—Building		14,300
6.	Work in Process Inventory.....	72,000	
	Manufacturing Overhead		
	(90% X \$80,000)		72,000
7.	Finished Goods Inventory.....	240,930	
	Work in Process Inventory		240,930

Computation of cost of jobs finished:

<u>Job</u>	<u>Direct Materials</u>	<u>Direct Labor</u>	<u>Manufacturing Overhead</u>	<u>Total</u>
A20	\$35,240	\$18,000	\$16,200	\$ 69,440
A21	42,920	22,000	19,800	84,720
A23	39,270	25,000	22,500	86,770
				<u>\$240,930</u>

EXERCISE 2-9

(a)

LOPEZ COMPANY Cost of Goods Manufactured Schedule For the Month Ended May 31, 2017

Work in process, May 1		\$ 14,700
Direct materials used	\$62,400	
Direct labor.....	50,000	
Manufacturing overhead applied.....	<u>40,000</u>	
Total manufacturing costs		<u>152,400</u>
Total cost of work in process		167,100
Less: Work in process, May 31		<u>15,900</u>
Cost of goods manufactured		<u>\$151,200</u>

EXERCISE 2-9 (Continued)

(b)

LOPEZ COMPANY
(Partial) Income Statement
For the Month Ended May 31, 2017

Sales revenue		\$215,000
Cost of goods sold		
Finished goods, May 1	\$ 12,600	
Cost of goods manufactured.....	<u>151,200</u>	
Cost of goods available for sale	163,800	
Less: Finished goods, May 31	<u>9,500</u>	
Cost of goods sold		<u>154,300</u>
Gross profit.....		<u>\$ 60,700</u>

(c)

LOPEZ COMPANY
(Partial) Balance sheet
May 31, 2017

Current assets:		
Finished goods inventory	\$ 9,500	
Work in process inventory	15,900	
Raw materials inventory	<u>7,100</u>	<u>\$32,500</u>

EXERCISE 2-10

(a) Work in Process Inventory

April 30	\$ 9,300	(#10, \$5,200 + #11, \$4,100)
May 31	\$18,600	(#11, \$8,000 + #13, \$4,700 + #14, \$5,900)
June 30	\$ 9,500	(#14, \$5,900 + \$3,600)

(b) Finished Goods Inventory

April 30	\$ 1,200	(#12)
May 31	\$ 9,600	(#10)
June 30	\$19,200	(#11, \$10,000 + #13, \$9,200)

(c) Gross Profit

Month	Job Number	Sales	Cost of Goods Sold	Gross Profit
May	12	\$ 1,500	\$ 1,200	\$ 300
June	10	12,000	9,600	2,400
July	11/13	24,000	19,200	4,800

EXERCISE 2-11

(a)

1.	Supplies	1,800	
	Accounts Payable		1,800
2.	Service Contracts in Process	720	
	Operating Overhead	480	
	Supplies		1,200
3.	Service Contracts in Process	56,000	
	Operating Overhead	14,000	
	Service Salaries and Wages		70,000
4.	Operating Overhead	40,000	
	Cash		40,000
5.	Service Contracts in Process (\$56,000 X 90%)	50,400	
	Operating Overhead		50,400
6.	Cost of Completed Service Contracts	75,000	
	Service Contracts in Process		75,000

(b)

Service Contracts in Process		
2.	720	75,000 (6)
3.	56,000	
5.	50,400	
	32,120	

EXERCISE 2-12

(a)	<u>Lynn</u>	<u>Brian</u>	<u>Mike</u>
Direct materials	\$ 600	\$ 400	\$ 200
Auditor labor costs	5,400	6,600	3,375
Applied overhead	<u>3,600</u>	<u>4,400</u>	<u>2,250</u>
Total cost	<u>\$9,600</u>	<u>\$11,400</u>	<u>\$5,825</u>

(b) The Lynn job is the only incomplete job, therefore, \$9,600.

(c) Actual overhead	\$11,000 (DR)
Applied overhead	<u>10,250 (CR)</u>
Balance	<u>\$ 750 (DR)</u>

EXERCISE 2-13

(a) Predetermined overhead rate = Estimated overhead ÷ Estimated decorator hours
 = \$960,000 ÷ 40,000 decorator hours
 = \$24 per decorator hour

(b) Service Contracts in Process (40,500 hrs X \$24).....	972,000
Operating Overhead.....	972,000

(c) Actual overhead	\$982,800
Applied overhead	<u>972,000</u>
Balance	<u>\$ 10,800</u> underapplied