

**CHAPTER 2
SOLUTIONS TO PROBLEMS: SET B**

PROBLEM 2-1B

(a) $\$440,000 \div 20,000$ direct labor hours = \$22 per direct labor hour

(b) See solution to part (e) for job cost sheets

(c) Raw Materials Inventory	45,000	
Accounts Payable		45,000
 Factory Labor	 33,500	
Employer Payroll Taxes Payable		7,500
Factory Wages Payable		26,000
 Manufacturing Overhead.....	 42,500	
Accumulated Depreciation—Equipment		12,000
Accounts Payable		11,000
Raw Materials Inventory		10,000
Factory Labor		9,500
 (d) Work in Process Inventory.....	 35,000	
Raw Materials Inventory (\$5,000 + \$17,000 + \$13,000)		35,000
 Work in Process Inventory.....	 24,000	
Factory Labor (\$3,000 + \$12,000 + \$9,000)		24,000
 Work in Process Inventory.....	 35,200	
Manufacturing Overhead (200 + 800 + 600) X \$22 per hour		35,200

See solution to part (e) for postings to job cost sheets.

PROBLEM 2-1B (Continued)

(e) Job Cost Sheets

Job No. 25			
<u>Date</u>	<u>Direct Materials</u>	<u>Direct Labor</u>	<u>Manufacturing Overhead</u>
Beg.	\$10,000	\$6,000	\$ 9,000
Jan.	<u>5,000</u>	<u>3,000</u>	<u>4,400*</u>
	<u>\$15,000</u>	<u>\$9,000</u>	<u>\$13,400</u>
Cost of completed job			
Direct materials.....			\$15,000
Direct labor			9,000
Manufacturing overhead			<u>13,400</u>
Total cost.....			<u>\$37,400</u>

*\$22 X 200 direct labor hours

Job No. 26			
<u>Date</u>	<u>Direct Materials</u>	<u>Direct Labor</u>	<u>Manufacturing Overhead</u>
Jan.	<u>\$17,000</u>	<u>\$12,000</u>	<u>\$17,600**</u>
	<u>\$17,000</u>	<u>\$12,000</u>	<u>\$17,600</u>
Cost of completed job			
Direct materials.....			\$17,000
Direct labor			12,000
Manufacturing overhead			<u>17,600</u>
Total cost.....			<u>\$46,600</u>

**\$22 X 800 direct labor hours

Job No. 27			
<u>Date</u>	<u>Direct Materials</u>	<u>Direct Labor</u>	<u>Manufacturing Overhead</u>
Jan.	<u>\$13,000</u>	<u>\$9,000</u>	<u>\$13,200***</u>

***\$22 X 600 direct labor hours

PROBLEM 2-1B (Continued)

Finished Goods Inventory.....	84,000	
Work in Process Inventory (\$37,400 + \$46,600).....		84,000
(f) Accounts Receivable	137,000	
Sales Revenue (\$63,000 + \$74,000).....		137,000
Cost of Goods Sold	79,400	
Finished Goods Inventory (\$42,000 + \$37,400).....		79,400

(g)	<u>Work in Process</u>		
Beginning balance	25,000	84,000	Cost of completed jobs 25 and 26
Direct materials	35,000		
Direct labor	24,000		
Manufacturing overhead	35,200		
Ending balance	35,200		

The balance in this account consists of the current costs assigned to Job No. 27:

Direct Materials	\$13,000
Direct Labor	9,000
Manufacturing Overhead	<u>13,200</u>
Total costs assigned	<u>\$35,200</u>

(h) <u>Manufacturing Overhead</u>
<u>Actual</u> <u>Applied</u>
42,500 35,200
<u>7,300</u>

The balance in the Manufacturing Overhead account is underapplied.

PROBLEM 2-2B

(a) Work in Process Inventory

1/1	Balance (1)	111,000	Completed work (5) (c)	344,000
	Direct materials (2)	97,000		
	Direct labor (3)	144,000		
	Manufacturing overhead (4)	180,000		
12/31	Balance	188,000		

(1)	Job 7650	\$ 63,000		(3)	Job 7650	\$ 36,000
	Job 7651	48,000			Job 7651	40,000
		<u>\$111,000</u>			Job 7652	<u>68,000</u>
						<u>\$144,000</u>

(2)	Job 7650	\$ 32,000		(4)	Job 7650	\$ 45,000
	Job 7651	30,000			Job 7651	50,000
	Job 7652	35,000			Job 7652	85,000
		<u>\$ 97,000</u>				<u>\$180,000</u>

(5)	(a)	Job 7650	
		Beginning balance.....	\$ 63,000
		Direct materials.....	32,000
		Direct labor.....	36,000
		Manufacturing overhead	45,000
			<u>\$176,000</u>

(b)	Job 7651		
		Beginning balance.....	\$ 48,000
		Direct materials.....	30,000
		Direct labor.....	40,000
		Manufacturing overhead	50,000
			<u>\$168,000</u>

(c)	Total cost of completed work	
	Job 7650	\$176,000
	Job 7651	168,000
		<u>\$344,000</u>

PROBLEM 2-2B (Continued)

Work in process balance		<u>\$188,000</u>
Unfinished job No. 7652		<u>\$188,000 (a)</u>
(a) Current year's cost		
Direct materials.....	\$ 35,000	
Direct labor	68,000	
Manufacturing overhead	<u>85,000</u>	
		<u>\$188,000</u>
(b) Actual overhead costs		
Incurred on account		\$135,000
Indirect materials		12,000
Indirect labor		16,000
Depreciation		<u>19,500</u>
		<u>\$182,500</u>
Applied overhead costs		
Job 7650.....		\$ 45,000
Job 7651.....		50,000
Job 7652.....		<u>85,000</u>
		<u>\$180,000</u>
Actual overhead		\$182,500
Applied overhead		<u>180,000</u>
Underapplied overhead		<u>\$ 2,500</u>
Cost of Goods Sold	2,500	
Manufacturing Overhead		2,500
(c) Sales revenue (given).....		
		\$490,000
Cost of goods sold		
Add: Job 7648	\$ 93,000	
Job 7649	62,000	
Job 7650	<u>176,000</u>	
	331,000	
Add: Underapplied overhead	<u>2,500</u>	333,500
Gross profit		<u>\$156,500</u>

PROBLEM 2-3B

(a)			
(i)	Raw Materials Inventory	4,000	
	Accounts Payable		4,000
	Factory Labor	7,000	
	Cash		7,000
	Manufacturing Overhead.....	1,400	
	Cash		1,400
(ii)	Work in Process Inventory	5,300	
	Manufacturing Overhead.....	1,500	
	Raw Materials Inventory		6,800
	Work in Process Inventory	5,000	
	Manufacturing Overhead.....	2,000	
	Factory Labor		7,000
	Work in Process Inventory		
	(\$5,000 X .70)	3,500	
	Manufacturing Overhead		3,500
(iii)	Finished Goods Inventory	20,190	
	Work in Process Inventory		20,190

Job	Direct Materials	Direct Labor	Manufacturing Overhead*	Total Costs
Stiner	\$3,000	\$2,400	\$1,680	\$ 7,080
Alton	2,600	2,200	1,540	6,340
Herman	3,200	2,100	1,470	6,770
				\$20,190

*70% of direct labor amount

Cash.....	36,000	
Sales Revenue (3 X \$12,000)		36,000
Cost of Goods Sold	20,190	
Finished Goods Inventory		20,190

PROBLEM 2-3B (Continued)

(b) **Work in Process Inventory**

5/1	Balance	12,200	5/31	Completed work	20,190
	Direct materials	5,300			
	Direct labor	5,000			
	Overhead applied	3,500			
5/31	Balance	5,810			

(c)

Work in Process Inventory.....	<u>\$5,810</u>
Job: Smith (Direct materials \$1,900 + Direct labor \$2,300 + Manufacturing overhead \$1,610).....	<u>\$5,810</u>

(d) **ROBERT PEREZ COMPANY**
Cost of Goods Manufactured Schedule
For the Month Ended May 31, 2017

Work in process, May 1		\$12,200
Direct materials used	\$5,300	
Direct labor.....	5,000	
Manufacturing overhead applied.....	<u>3,500</u>	
Total manufacturing costs		<u>13,800</u>
Total cost of work in process		26,000
Less: Work in process, May 31		<u>5,810</u>
Cost of goods manufactured		<u>\$20,190</u>

PROBLEM 2-4B

- (a) Department A: $\$720,000 \div \$600,000 = 120\%$ of direct labor cost.
 Department B: $\$640,000 \div 40,000 = \16.00 per direct labor hour.
 Department C: $\$900,000 \div 150,000 = \6.00 per machine hour.

(b)

	Department		
Manufacturing Costs	A	B	C
Direct materials	\$ 92,000	\$ 86,000	\$ 64,000
Direct labor	48,000	35,000	50,400
Overhead applied	<u>57,600*</u>	<u>56,000**</u>	<u>75,600***</u>
Total	<u>\$197,600</u>	<u>\$177,000</u>	<u>\$190,000</u>

*\$48,000 X 120%

**3,500 X \$16

***12,600 X \$6.00

(c)

	Department		
Manufacturing Overhead	A	B	C
Incurred	\$60,000	\$60,000	\$72,100
Applied	<u>57,600</u>	<u>56,000</u>	<u>75,600</u>
Under (over) applied	<u>\$ 2,400</u>	<u>\$ 4,000</u>	<u>\$ (3,500)</u>

PROBLEM 2-5B

- (a) **\$88,900** **(\$80,000 + \$8,900).**
- (b) **\$20,500** **[((\$19,000 + \$90,400) – \$88,900 (See (a))].**
- (c) **\$27,200** **(Given in Other data—\$19,000 + \$8,200).**
- (d) **\$90,000** **(\$117,000 manufacturing overhead applied ÷ 130%).**
- (e) **\$117,000** **(Manufacturing overhead applied).**
- (f) **\$308,750** **[\$27,200 + \$80,000 + \$90,000 + \$117,000 – \$5,450 (See (g))].**
- (g) **\$5,450** **[\$2,000 + \$1,500 + (\$1,500 X 130%)].**
- (h) **\$145,000** **(Given in Other data).**
- (i) **\$308,750** **(Same as (f)).**
- (j) **\$315,750** **[\$145,000 + \$308,750 – \$138,000 (Given in Other data)].**
- (k) **\$138,000** **(Given in Other data).**
- (l) **\$106,000** **[\$90,000 (See (d)) + \$16,000].**
- (m) **\$106,000** **(Same as (l)).**
- (n) **\$95,100** **[\$117,000 + \$3,000 (Given in Other data) – \$8,900 – \$16,000].**