

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

<b>PROBLEM 2-1B</b>
---------------------

(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**

<b>Job No. 25</b>			
<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>
<b>Cost of completed job</b>			
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

<b>Job No. 26</b>			
<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>
<b>Cost of completed job</b>			
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

<b>Job No. 27</b>			
<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	68,000
					<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><b>\$188,000</b></u>
Unfinished job No. 7652 .....		<u><b>\$188,000 (a)</b></u>
(a) Current year's cost		
Direct materials.....	\$ 35,000	
Direct labor .....	68,000	
Manufacturing overhead .....	85,000	
	<u><b>\$188,000</b></u>	
(b) Actual overhead costs		
Incurred on account .....		\$135,000
Indirect materials .....		12,000
Indirect labor .....		16,000
Depreciation .....		19,500
		<u><b>\$182,500</b></u>
Applied overhead costs		
Job 7650.....	\$ 45,000	
Job 7651.....	50,000	
Job 7652.....	85,000	
	<u><b>\$180,000</b></u>	
Actual overhead .....		\$182,500
Applied overhead .....		<u>180,000</u>
Underapplied overhead .....		<u><b>\$ 2,500</b></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 .....	176,000	
	<u>331,000</u>	
Add: Underapplied overhead .....	<u>2,500</u>	<u>333,500</u>
Gross profit .....		<u><b>\$156,500</b></u>

<b>PROBLEM 2-3B</b>
---------------------

<b>(a)</b>			
<b>(i)</b>			
Raw Materials Inventory .....	4,000		
Accounts Payable .....		4,000	
Factory Labor .....	7,000		
Cash .....		7,000	
Manufacturing Overhead.....	1,400		
Cash .....		1,400	
<b>(ii)</b>			
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	
<b>(iii)</b>			
Finished Goods Inventory .....	20,190		
Work in Process Inventory .....		20,190	

<u>Job</u>	<u>Direct Materials</u>	<u>Direct Labor</u>	<u>Manufacturing Overhead*</u>	<u>Total Costs</u>
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
				<u>\$20,190</u>

\*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</b>					
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..... **\$5,810**

Job: Smith (Direct materials \$1,900 + Direct labor \$2,300 +  
Manufacturing overhead \$1,610)..... **\$5,810**

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

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

<b>PROBLEM 2-4B</b>
---------------------

- (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		
<u>Manufacturing Costs</u>	<u>A</u>	<u>B</u>	<u>C</u>
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		
<u>Manufacturing Overhead</u>	<u>A</u>	<u>B</u>	<u>C</u>
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>



<b>PROBLEM 2-5B</b>
---------------------

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