

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

<b>PROBLEM 2-1B</b>
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(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>
<b>Total cost.....</b>			<b><u>\$37,400</u></b>

\*\$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>
<b>Total cost.....</b>			<b><u>\$46,600</u></b>

\*\*\$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		

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

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

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

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

	<b>(c)</b>	<b>Total cost of completed work</b>	
		Job 7650 .....	\$176,000
		Job 7651 .....	168,000
			<u><b>\$344,000</b></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>
<b>(a) Current year's cost</b>		
Direct materials.....	\$ 35,000	
Direct labor .....	68,000	
Manufacturing overhead .....	<u>85,000</u>	
		<u><b>\$188,000</b></u>
<b>(b) Actual overhead costs</b>		
Incurred on account .....		\$135,000
Indirect materials .....		12,000
Indirect labor .....		16,000
Depreciation .....		<u>19,500</u>
		<u><b>\$182,500</b></u>
<b>Applied overhead costs</b>		
Job 7650.....		\$ 45,000
Job 7651.....		50,000
Job 7652.....		<u>85,000</u>
		<u><b>\$180,000</b></u>
<b>Actual overhead .....</b>		<b>\$182,500</b>
<b>Applied overhead .....</b>		<u><b>180,000</b></u>
<b>Underapplied overhead .....</b>		<u><b>\$ 2,500</b></u>
<b>Cost of Goods Sold .....</b>	<b>2,500</b>	
<b>Manufacturing Overhead .....</b>		<b>2,500</b>
<b>(c) Sales revenue (given).....</b>		
		<b>\$490,000</b>
<b>Cost of goods sold</b>		
<b>Add: Job 7648 .....</b>	<b>\$ 93,000</b>	
<b>Job 7649 .....</b>	<b>62,000</b>	
<b>Job 7650 .....</b>	<u><b>176,000</b></u>	
	<b>331,000</b>	
<b>Add: Underapplied overhead .....</b>	<u><b>2,500</b></u>	<b>333,500</b>
<b>Gross profit .....</b>		<u><b>\$156,500</b></u>

**PROBLEM 2-3B**

<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

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
				<b>\$20,190</b>

\*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>

<b>PROBLEM 2-4B</b>
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- (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].