

## Exercise E21-6

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(a) (1) Finished		9,000
+ Not Finished		<u>3,000</u>
EUP (M)		<u>12,000</u>

(2) Finished		9,000
Not Finished 3,000	x 60%	= <u>1,800</u>
EUP (CC)		<u>10,800</u>

(b) M:	<u>\$45,000</u>	=	\$3.75
	12,000		

CC:	<u>\$16,200 + \$18,900</u>	=	\$3.25
	10,800		

(c)					
<u>Finished</u>					
M	9,000	x	\$3.75	=	\$33,750
CC	9,000	x	\$3.25	=	<u>29,250</u>
					<u>\$63,000</u>
				÷	9,000 = \$7

<u>Not Finished</u>					
M	3,000	x	\$3.75	=	\$11,250
CC	1,800	x	\$3.25	=	<u>5,850</u>
					<u>\$17,100</u>



## Exercise E21-7

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(a) Determine (1) EUP (M) and (2) EUP (CC):

(1)	Finished		12,000
	+ Not Finished		<u>3,000</u>
	EUP (M)		<u>15,000</u>

(2)	Finished		12,000
	Not Finished	3,000 x 20%	= <u>600</u>
	EUP (CC)		<u>12,600</u>

(b) Determine the unit costs of M and CC:

$$\text{M: } \frac{\$33,000}{15,000} = \$2.20$$

$$\text{CC: } \frac{\$27,000 + \$36,000}{12,600} = \$5.00$$

(c) Determine the total and units cost of goods finished (transferred out):

Finished

$$\text{M } 12,000 \times \$2.20 = \$26,400$$

$$\text{CC } 12,000 \times \$5.00 = \underline{60,000}$$

$$\underline{\$86,400} \div 12,000 = \$7.20$$

## Exercise E21-7

(continued)

(d) Determine and prove the cost of EI (goods in process):

### WIP -- S

M	33,000	to FG	86,400
L	27,000		
O	<u>36,000</u>		
	96,000		

bal = 9,600

**Proof:**

### Not Finished

M	3,000	x	\$2.20	=	\$6,600
CC	600	x	\$5.00	=	<u>3,000</u>
					<u>\$9,600</u>

**Exercise E21-8**  
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**(a)**

<b>Finished</b>	<b>14,000</b>	<b>F</b>			<b>14,000</b>
<b>- Not Finished</b>	<u><b>1,000</b></u>	<b>NF</b>		<b>1,000 x 40% =</b>	<u><b>400</b></u>
<b>EUP (M)</b>	<u><b>15,000</b></u>	<b>EUP (CC)</b>			<u><b>14,400</b></u>

**(b) Materials:**

$$\frac{\$900,000}{15,000} = \$60$$

**Conversion Costs:**

$$\frac{\$432,000}{14,400} = \$30$$

**(c) Finished**

**M**    **14,000 x \$60 = \$840,000**

**CC**   **14,000 x \$30 = 420,000**    **\$1,260,000 ÷ 14,000 = \$90**

**Exercise E21-8**  
**(continued)**

**Based on this information, make the necessary journal entry.**

<b>Finished Goods</b>	<b>1,260,000</b>
<b>Work in Process - Blending</b>	<b>1,260,000</b>

**W I P -- B**

<b>BI</b>	<b>170,000</b>		<b>to FG</b>	<b>1,260,000</b>
<b>M</b>	<b>800,000</b>			
<b>L &amp; O</b>	<b><u>362,000</u></b>			
	<b>1,332,000</b>			
 <b>bal = 72,000</b>				

**Proof:**

**Not Finished**

<b>M</b>	<b>1,000</b>	<b>x</b>	<b>\$60</b>	<b>=</b>	<b>\$60,000</b>
<b>CC</b>	<b>400</b>	<b>x</b>	<b>\$30</b>	<b>=</b>	<b><u>12,000</u></b>
					<b><u>\$72,000</u></b>

**Exercise E21-3**  
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<b>(a)</b>	<b>Beginning (units)</b>	<b>400</b>
	<b>+ Started</b>	<b><u>1,100</u></b>
	<b>=</b>	<b>1,500</b>
	<b>— Finished</b>	<b><u>1,200</u></b>
	<b>= Ending (in process)</b>	<b><u><u>300</u></u></b>

<b>(b)</b>	<b>Finished</b>	<b>1,200</b>
	<b>+ Not Finished</b>	<b><u>300</u></b>
	<b>= EUP (materials)</b>	<b><u><u>1,500</u></u></b>

$$\frac{\$2,040 + \$5,160}{1,500 \text{ EUP(M)}} = \$4.80$$

<b>(c)</b>	<b>Finished</b>		<b>=</b>	<b>1,200</b>
	<b>Not Finished 300</b>	<b>x 40%</b>	<b>=</b>	<b><u>120</u></b>
	<b>EUP (CC)</b>			<b><u><u>1,320</u></u></b>

<b>BI - CC</b>	<b>\$1,550</b>			
<b>DL</b>	<b>2,740</b>			
<b>OH</b>	<b><u>1,650</u></b>			
	<b><u><u>\$5,940</u></u></b>	<b>÷ 1,320</b>	<b>=</b>	<b>\$4.50</b>

## Exercise E21-3 (continued)

**(d) Finished**

**M     1,200 x \$4.80 = \$5,760**

**CC    1,200 x \$4.50 = 5,400     \$11,160 ÷ 1,200 = \$9.30**

**(e) Not Finished**

**M        300 x \$4.80 =     \$1,440**

**CC       120 x \$4.50 =       540**

**Ending Inventory               \$1,980**

### Work in Process - Painting

<b>Balance</b>	<b>3,590</b>	<b>to FG</b>	<b>11,160</b>
<b>M</b>	<b>5,160</b>		
<b>L</b>	<b>2,740</b>		
<b>OH</b>	<b><u>1,650</u></b>		
	<b>13,140</b>		
 <b>Bal = 1,980</b>			



**Exercise E21-11**  
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<b>(a) Finished</b>	<b>15,000</b>	<b>F</b>	<b>=</b>	<b>15,000</b>
<b>+ Not Finished</b>	<u><b>5,000</b></u>	<b>NF</b>	<b>5,000 x 10% =</b>	<u><b>500</b></u>
<b>EUP (M)</b>	<u><b>20,000</b></u>	<b>EUP (CC)</b>		<u><b>15,500</b></u>

<b>(b) <u>Materials:</u></b>	<b><u>Conversion Costs:</u></b>
<u><b>\$20,000 + \$177,200</b></u> = <b>\$9.86</b>	<u><b>\$43,180 + \$359,820</b></u> = <b>\$26.00</b>
<b>20,000</b>	<b>15,500</b>

<b>(c) <u>Finished</u></b>	
<b>M 15,000 x \$ 9.86</b>	<b>\$147,900</b>
<b>CC 15,000 x \$26.00</b>	<u><b>390,000</b></u>
	<b>\$537,900 ÷ 15,000 = \$35.86</b>

**Exercise E21-11**  
**(continued)**

**Make the necessary journal entry for goods completed.**

<b>Finished Goods</b>	<b>537,900</b>	
<b>Work in Process - Polishing</b>		<b>537,900</b>

**W I P -- P**

<b>BI</b>	<b>63,180</b>		<b>to FG</b>	<b>537,900</b>
<b>M</b>	<b>177,200</b>			
<b>L</b>	<b>102,680</b>			
<b>O</b>	<b><u>257,140</u></b>			
	<b>600,200</b>			
 <b>bal = 62,300</b>				

**Proof:**

**Not Finished**

<b>M</b>	<b>5,000</b>	<b>x</b>	<b>\$ 9.86</b>	<b>=</b>	<b>\$49,300</b>
<b>CC</b>	<b>500</b>	<b>x</b>	<b>\$26.00</b>	<b>=</b>	<b><u>13,000</u></b>
					<b><u>\$62,300</u></b>

Name \_\_\_\_\_

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Exercise 21-13 – page 999

From the data presented in the textbook perform the following operations:

- (a) Determine the “physical” units in the department this month. Determine the equivalent units of productions for (1) materials, and (2) conversion costs.
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
- (b) Determine the unit costs of (1) materials and (2) conversion costs.
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
- (c) Determine the (1) total and (2) unit costs of goods finished (transferred out); make the necessary journal entry.
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
- (d) (1) Determine and (2) prove the cost of ending inventory (goods in process).

## Exercise E21-13

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**(a) Determine (1) EUP (M) and (2) EUP (CC):**

	<u>(1) Materials</u>		<u>(2) Conv Costs</u>
Finished	49,000		49,000
Not Finished	<u>26,000</u>	x 1/5 =	<u>5,200</u>
EUP	<u>75,000</u>		<u>54,200</u>

**(b) Determine the unit costs of M and CC:**

$$\text{M: } \frac{\$18,000 + \$180,000}{75,000} = \$2.64$$

$$\text{CC: } \frac{\$14,175 + \$94,225}{54,200} = \$2.00$$

$$\text{Total} \quad \underline{\underline{\$4.64}}$$

**(c) Determine the total and units cost of goods finished (transferred out):**

**Alternative 1:**

$$49,000 \quad \text{x} \quad \$4.64 \quad = \quad \$227,360$$

**Exercise E21-13**  
**(continued)**

**(c) Determine the total and units cost of goods finished (transferred out):**

**Alternative 2:**

**Finished**

**M     49,000 x \$2.64 = \$129,360**

**CC    49,000 x \$2.00 = 98,000     \$227,360 ÷ 49,000 = \$4.64**

**Make a journal entry.**

<b>Finished Goods (or WIP - Next)</b>	<b>227,360</b>	
<b>    Work in Process - W</b>		<b>227,360</b>

**Exercise E21-13**  
**(continued)**

**(d) Determine and prove the cost of EI (goods in process):**

<b>W I P -- W</b>			
<b>BI</b>	<b>32,175</b>	<b>to FG</b>	<b>227,360</b>
<b>M</b>	<b>180,000</b>		
<b>L</b>	<b>32,780</b>		
<b>O</b>	<b><u>61,445</u></b>		
	<b>306,400</b>		
<b>bal = 79,040</b>			

**Proof:**

**Not Finished**

<b>M</b>	<b>26,000</b>	<b>x</b>	<b>\$2.64</b>	<b>=</b>	<b>\$68,640</b>
<b>CC</b>	<b>5,200</b>	<b>x</b>	<b>\$2.00</b>	<b>=</b>	<b><u>10,400</u></b>
					<b><u>\$79,040</u></b>

# Exercise E21-4

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<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
1.	<b>Raw Materials (Inventory)</b>	<b>62,500</b>	
	<b>Accounts Payable</b>		<b>62,500</b>
2.	<b>Factory Labor</b>	<b>56,000</b>	
	<b>Wages Payable</b>		<b>56,000</b>
3.	<b>Manufacturing Overhead</b>	<b>70,000</b>	
	<b>Accounts Payable</b>		<b>40,000</b>
	<b>Cash</b>		<b>30,000</b>
4.	<b>Work in Process–Cutting</b>	<b>15,700</b>	
	<b>Work in Process–Assembly</b>	<b>8,900</b>	
	<b>Raw Materials</b>		<b>24,600</b>
5.	<b>Work in Process–Cutting</b>	<b>29,000</b>	
	<b>Work in Process–Assembly</b>	<b>27,000</b>	
	<b>Factory Labor</b>		<b>56,000</b>

## Exercise E21-4 (continued)

<u>Date</u>	<u>Account Titles</u>	<u>Debit</u>	<u>Credit</u>
<b>6.</b>	<b>Work in Process–Assembly</b>	<b>25,200</b>	
	<b>Work in Process–Assembly</b>	<b>25,800</b>	
	<b>Manufacturing Overhead</b>		<b>51,000</b>
<b>7.</b>	<b>Work in Process–Assembly</b>	<b>67,600</b>	
	<b>Work in Process–Cutting</b>		<b>67,600</b>
<b>8.</b>	<b>Finished Goods</b>	<b>134,900</b>	
	<b>Work in Process–Assembly</b>		<b>134,900</b>
<b>9.</b>	<b>Cost of Goods Sold</b>	<b>150,000</b>	
	<b>Finished Goods</b>		<b>150,000</b>
	<b>Accounts Receivable</b>	<b>200,000</b>	
	<b>Sales</b>		<b>200,000</b>