Exercise 2-5 (15 minutes)

Lompac Products
Schedule of Cost of Goods Manufactured

Direct materials:		
Beginning raw materials inventory.....	$ 60,000	
Add: Purchases of raw materials.....	690,000	
Raw materials available for use.....	750,000	
Deduct: Ending raw materials inventory…	45,000	
Raw materials used in production.....		$ 705,000
Direct labor.....		135,000
Manufacturing overhead.....		370,000
Total manufacturing costs.....		1,210,000
Add: Beginning work in process inventory. .		120,000
		1,330,000
Deduct: Ending work in process inventory. .		130,000
Cost of goods manufactured.....		$1,200,000

Problem 2-18 (45 minutes)

1.

Meriwell Company
Schedule of Cost of Goods Manufactured

Direct materials:		
Raw materials inventory, beginning	$ 9,000	
Add: Purchases of raw materials	125,000	
Raw materials available for use	134,000	
Deduct: Raw materials inventory, ending	6,000	
Raw materials used in production		$128,000
Direct labor		70,000
Manufacturing overhead		105,000
Total manufacturing costs		303,000
Add: Work in process inventory, beginning		17,000
		320,000
Deduct: Work in process inventory, ending		30,000
Cost of goods manufactured		$290,000

2.

Meriwell Company
Income Statement

Sales		$500,000
Cost of goods sold:		
Finished goods inventory, beginning	$ 20,000	
Add: Cost of goods manufactured	290,000	
Goods available for sale	310,000	
Deduct: Finished goods inventory, ending	40,000	270,000
Gross margin		230,000
Selling and administrative expenses:		
Selling expenses	80,000	
Administrative expenses	110,000	190,000
Net operating income		$ 40,000

3. Direct materials: $128,000 ÷ 10,000 units = $12.80 per unit.
   Fixed manufacturing overhead: $90,000 ÷ 10,000 units = $9.00 per unit.

4. Direct materials:
   Unit cost: $12.80 (unchanged)
   Total cost: 15,000 units × $12.80 per unit = $192,000.

   Fixed manufacturing overhead:
   Unit cost: $90,000 ÷ 15,000 units = $6.00 per unit.
   Total cost: $90,000 (unchanged)

5. Unit cost for fixed manufacturing overhead dropped from $9.00 to $6.00, because of the increase in production between the two years. Because fixed costs do not change *in total* as the activity level changes, they will decrease on a unit basis as the activity level rises.

Problem 2-21 (60 minutes)

1.

Superior Company
Schedule of Cost of Goods Manufactured
For the Year Ended December 31

Direct materials:			
Raw materials inventory, beginning (given). .	$ 40,000		
Add: Purchases of raw materials (given).....	290,000		
Raw materials available for use.....	330,000		
Deduct: Raw materials inventory, ending (given).....	10,000		
Raw materials used in production.....		$320,000	
Direct labor.....		93,000	*
Manufacturing overhead (given).....		270,000	
Total manufacturing costs (given).....		683,000	
Add: Work in process inventory, beginning.....		42,000	*
		725,000	
Deduct: Work in process inventory, ending (given).....		35,000	
Cost of goods manufactured.....		$690,000	

The cost of goods sold section of the income statement follows:

Finished goods inventory, beginning (given)…	$ 50,000	
Add: Cost of goods manufactured.....	690,000	*
Goods available for sale (given).....	740,000	
Deduct: Finished goods inventory, ending……	80,000	*
Cost of goods sold (given).....	$660,000	

* These items must be computed by working backwards up through the statements.

2. Direct materials: $320,000 ÷ 40,000 units = $8.00 per unit.
   Manufacturing overhead: $270,000 ÷ 40,000 units = $6.75 per unit.

3. Direct materials: $8.00 per unit.
   Manufacturing overhead: $270,000 ÷ 50,000 units = $5.40 per unit.

4. The average cost per unit for manufacturing overhead dropped from $6.75 to $5.40 because of the increase in production between the two years. Because fixed costs do not change *in total* as the activity level changes, the average cost per unit will decrease as the activity level rises.

Problem 2-24 (60 minutes)

1.

Visic Corporation
Schedule of Cost of Goods Manufactured

Direct materials:		
Raw materials inventory, beginning	$ 20,000	
Add: Purchases of raw materials	480,000	
Raw materials available for use	500,000	
Deduct: Raw materials inventory, ending	30,000	
Raw materials used in production		$470,000
Direct labor		90,000
Manufacturing overhead		300,000
Total manufacturing costs		860,000
Add: Work in process inventory, beginning		50,000
		910,000
Deduct: Work in process inventory, ending		40,000
Cost of goods manufactured		$870,000

2. a. To compute the number of units in the finished goods inventory at the end of the year, we must first compute the number of units sold during the year.

$$\frac{\text{Total sales}}{\text{Unit selling price}} = \frac{\$1{,}300{,}000}{\$50 \text{ per unit sold}} = 26{,}000 \text{ units sold}$$

Units in the finished goods inventory, beginning	0
Units produced during the year	29,000
Units available for sale	29,000
Units sold during the year (above)	26,000
Units in the finished goods inventory, ending	3,000

b. The average production cost per unit during the year is:

$$\frac{\text{Cost of goods manufactured}}{\text{Number of units produced}} = \frac{\$870{,}000}{29{,}000 \text{ units}} = \$30 \text{ per unit}$$

Thus, the cost of the units in the finished goods inventory at the end of the year is: 3,000 units × $30 per unit = $90,000.

3.

Visic Corporation
Income Statement

Sales		$1,300,000
Cost of goods sold:		
Finished goods inventory, beginning	$ 0	
Add: Cost of goods manufactured	870,000	
Goods available for sale	870,000	
Finished goods inventory, ending	90,000	780,000
Gross margin		520,000
Selling and administrative expenses		380,000
Net operating income		$ 140,000