

## Capítulo 6 Managerial Accounting and Cost Concepts

### Exercise 1-1 (15 minutes)

<i>Cost</i>	<i>Cost Object</i>	<i>Direct Cost</i>	<i>Indirect Cost</i>
1. The wages of pediatric nurses	The pediatric department	X	
2. Prescription drugs	A particular patient	X	
3. Heating the hospital	The pediatric department		X
4. The salary of the head of pediatrics	The pediatric department	X	
5. The salary of the head of pediatrics	A particular pediatric patient		X
6. Hospital chaplain's salary	A particular patient		X
7. Lab tests by outside contractor	A particular patient	X	
8. Lab tests by outside contractor	A particular department	X	

### Exercise 1-2 (10 minutes)

1. The cost of a hard drive installed in a computer: direct materials.
2. The cost of advertising in the *Puget Sound Computer User* newspaper: selling.
3. The wages of employees who assemble computers from components: direct labor.
4. Sales commissions paid to the company's salespeople: selling.
5. The salary of the assembly shop's supervisor: manufacturing overhead.
6. The salary of the company's accountant: administrative.
7. Depreciation on equipment used to test assembled computers before release to customers: manufacturing overhead.
8. Rent on the facility in the industrial park: a combination of manufacturing overhead, selling, and administrative. The rent would most likely be prorated on the basis of the

amount of space occupied by manufacturing, selling, and administrative operations.

**Exercise 1-3** (15 minutes)

	<i>Product Cost</i>	<i>Period Cost</i>
1. Depreciation on salespersons' cars .....		X
2. Rent on equipment used in the factory .....	X	
3. Lubricants used for machine maintenance .....	X	
4. Salaries of personnel who work in the finished goods warehouse...		X
5. Soap and paper towels used by factory workers at the end of a shift .....	X	
6. Factory supervisors' salaries .....	X	
7. Heat, water, and power consumed in the factory .....	X	
8. Materials used for boxing products for shipment overseas (units are not normally boxed).....		X
9. Advertising costs .....		X
10. Workers' compensation insurance for factory employees .....	X	
11. Depreciation on chairs and tables in the factory lunchroom.....	X	
12. The wages of the receptionist in the administrative offices .....		X
13. Cost of leasing the corporate jet used by the company's executives		X
14. The cost of renting rooms at a Florida resort for the annual sales conference.....		X
15. The cost of packaging the company's product.....	X	

**Exercise 1-4** (15 minutes)

1.	<i>Cups of Coffee Served in a Week</i>		
	<u>2,000</u>	<u>2,100</u>	<u>2,200</u>
Fixed cost .....	\$1,200	\$1,200	\$1,200
Variable cost .....	<u>440</u>	<u>462</u>	<u>484</u>
Total cost.....	<u>\$1,640</u>	<u>\$1,662</u>	<u>\$1,684</u>
Average cost per cup served * .....	\$0.820	\$0.791	\$0.765

\* Total cost ÷ cups of coffee served in a week

2. The average cost of a cup of coffee decreases as the number of cups of coffee served increases because the fixed cost is spread over more cups of coffee.

**Exercise 1-5** (15 minutes)

<i>Item</i>	<i>Differential Cost</i>	<i>Sunk Cost</i>	<i>Opportunity Cost</i>
1. Cost of the old X-ray machine .....		X	
2. The salary of the head of the Radiology Department .....			
3. The salary of the head of the Laboratory Department .....			
4. Cost of the new color laser printer .....	X		
5. Rent on the space occupied by Radiology .			
6. The cost of maintaining the old machine ...	X		
7. Benefits from a new DNA analyzer .....			X
8. Cost of electricity to run the X-ray machines .....	X		

Note: The costs of the salaries of the head of the Radiology Department and Laboratory Department and the rent on the space occupied by Radiology are neither differential costs, nor opportunity costs, nor sunk costs. These costs do not differ between the alternatives and therefore are irrelevant in the decision, but they are not sunk costs because they occur in the future.

**Exercise 1-6** (15 minutes)

1. Traditional income statement

Cherokee Inc. Traditional Income Statement		
Sales (\$30 per unit × 20,000 units) .....		\$600,000
Cost of goods sold		
(\$24,000 + \$180,000 – \$44,000) .....		<u>160,000</u>
Gross margin .....		440,000
Selling and administrative expenses:		
Selling expenses		
((\$4 per unit × 20,000 units) + \$40,000) .....	\$120,000	
Administrative expenses		
((\$2 per unit × 20,000 units) + \$30,000) .....	<u>70,000</u>	<u>190,000</u>
Net operating income .....		<u>\$250,000</u>

2. Contribution format income statement

Cherokee Inc.  
Contribution Format Income Statement

Sales (\$30 per unit × 20,000 units) .....	\$600,000	
Variable expenses:		
Cost of goods sold		
(\$24,000 + \$180,000 – \$44,000) .....	\$160,000	
Selling expenses (\$4 per unit × 20,000 units) .....	80,000	
Administrative expenses		
(\$2 per unit × 20,000 units) .....	<u>40,000</u>	<u>280,000</u>
Contribution margin .....		320,000
Fixed expenses:		
Selling expenses .....	40,000	
Administrative expenses .....	<u>30,000</u>	<u>70,000</u>
Net operating income .....		<u>\$250,000</u>

**Exercise 1-7** (20 minutes)

1a. The total direct manufacturing cost incurred is computed as follows:

Direct materials per unit .....	\$7.00	
Direct labor per unit .....	<u>4.00</u>	
Direct manufacturing cost per unit (a) .....		\$11.00
Number of units sold (b) .....		20,000
Total direct manufacturing cost (a) × (b) .....		\$220,000

1b. The total indirect manufacturing cost incurred is computed as follows:

Variable manufacturing overhead per unit .....	\$1.50	
Fixed manufacturing overhead per unit .....	<u>5.00</u>	
Indirect manufacturing cost per unit (a) .....		\$6.50
Number of units sold (b) .....		20,000
Total indirect manufacturing cost (a) × (b) .....		\$130,000

Note: The average fixed manufacturing overhead cost per unit of \$5.00 is valid for only one level of activity—20,000 units produced.

2a. The total manufacturing cost that is directly traceable to the Manufacturing Department is computed as follows:

Direct materials per unit .....	\$7.00
Direct labor per unit .....	4.00

Variable manufacturing overhead per unit.....	1.50	
Fixed manufacturing overhead per unit.....	<u>5.00</u>	
Total manufacturing cost per unit (a) .....		\$17.50
Number of units sold (b).....		20,000
Total direct costs (a) × (b).....		\$350,000

2b. None of the manufacturing costs should be treated as indirect costs when the cost object is the Manufacturing Department.

**Exercise 1-10 (10 minutes)**

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|---------------------------------------|----------------|
| 1. Direct materials.....              | \$ 7.00        |
| Direct labor .....                    | 4.00           |
| Variable manufacturing overhead ..... | <u>1.50</u>    |
| Total incremental cost.....           | <u>\$12.50</u> |
| 2. Direct materials.....              | \$ 7.00        |
| Direct labor .....                    | 4.00           |
| Variable manufacturing overhead ..... | 1.50           |
| Sales commissions .....               | 1.00           |
| Variable administrative expense ..... | <u>0.50</u>    |
| Variable cost per unit sold.....      | <u>\$14.00</u> |
3. Because the 200 units to be sold to the new customer have already been produced, the incremental manufacturing cost per unit is zero. The variable manufacturing costs incurred to make these units have already been incurred and, as such, are sunk costs.
- |                                       |               |
|---------------------------------------|---------------|
| 4. Sales commission.....              | \$1.00        |
| Variable administrative expense ..... | <u>0.50</u>   |
| Variable cost per unit sold.....      | <u>\$1.50</u> |

**Exercise 1-16 (10 minutes)**

1. The differential cost is computed as follows:

Cost of a new model 300 (a).....	\$313,000
Cost of a new model 200 (b) .....	\$275,000
Differential cost (a) – (b).....	\$38,000

2. The sunk cost is the cost of the machine purchased seven years ago for \$319,000.
3. The opportunity cost is the \$374,000 that could have been earned by pursuing the forgone option.