

## ACCT2121

### Ch13 Additional Exercises

#### Question 1:

Dexter Products, Inc., manufactures and sells a number of items, including an overnight case. The company has been experiencing losses on the overnight case for some time, as shown on the following contribution format income statement:

Income Statement—Overnight Cases For the Quarter Ended June 30		
Sales . . . . .		\$450,000
Variable expenses:		
Variable manufacturing expenses . . . . .	\$130,000	
Sales commissions . . . . .	48,000	
Shipping . . . . .	12,000	
Total variable expenses . . . . .		190,000
Contribution margin . . . . .		260,000
Fixed expenses:		
Salary of product-line manager . . . . .	21,000	
General factory overhead . . . . .	104,000*	
Depreciation of equipment (no resale value) . . . . .	36,000	
Advertising—traceable . . . . .	110,000	
Insurance on inventories . . . . .	9,000	
Purchasing department . . . . .	50,000†	
Total fixed expenses . . . . .		330,000
Net operating loss . . . . .		<u>\$ (70,000)</u>
*Allocated on the basis of machine-hours.		
†Allocated on the basis of sales dollars.		

Discontinuing the overnight cases would not affect the company's sales of its other product lines, its total general factory overhead, or its total purchasing department expenses.

#### Required:

Would you recommend that the company discontinue the manufacture and sale of overnight cases? Support your answer with appropriate computations.

#### Answer:

No, the overnight cases should not be discontinued. The computations are:

Contribution margin lost if the cases are discontinued.....			\$(260,000)
Less fixed costs that can be avoided if the cases are discontinued:			
Salary of the product line manager .....	\$ 21,000		
Advertising.....	110,000		
Insurance on inventories.....	<u>9,000</u>	<u>140,000</u>	
Net disadvantage of dropping the cases.....			<u>\$(120,000)</u>

**Question 2:**

Royal Company manufactures 20,000 units of part R-3 each year for use on its production line. At this level of activity, the cost per unit for part R-3 is:

Direct materials .....	\$ 4.80
Direct labor .....	7.00
Variable manufacturing overhead .....	3.20
Fixed manufacturing overhead .....	10.00
Total cost per part .....	<u>\$25.00</u>

An outside supplier has offered to sell 20,000 units of part R-3 each year to Royal Company for \$23.50 per part. If Royal Company accepts this offer, the facilities now being used to manufacture part R-3 could be rented to another company at an annual rental of \$150,000. However, Royal Company has determined that \$6 of the fixed manufacturing overhead being applied to part R-3 would continue even if part R-3 were purchased from the outside supplier.

**Required:**

Prepare computations showing how much profits will increase or decrease if the outside supplier's offer is accepted.

**Answer:**

The costs that are relevant in a make-or-buy decision are those costs that can be avoided as a result of purchasing from the outside. The analysis for this exercise is:

	<i>Per Unit Differential Costs</i>		<i>20,000 Units</i>	
	<i>Make</i>	<i>Buy</i>	<i>Make</i>	<i>Buy</i>
Cost of purchasing .....		\$23.50		\$470,000
Cost of making:				
Direct materials.....	\$ 4.80		\$ 96,000	
Direct labor .....	7.00		140,000	
Variable manufacturing overhead .....	3.20		64,000	
Fixed manufacturing overhead .....	<u>4.00 *</u>		<u>80,000</u>	
Total cost.....	<u>\$19.00</u>	<u>\$23.50</u>	<u>\$380,000</u>	<u>\$470,000</u>

\* The remaining \$6 of fixed manufacturing overhead cost would not be relevant, since it will continue regardless of whether the company makes or buys the parts.

The \$150,000 rental value of the space being used to produce part R-3 represents an opportunity cost of continuing to produce the part internally. Thus, the completed analysis would be:

	<i>Make</i>	<i>Buy</i>
Total cost, as above .....	\$380,000	\$470,000
Rental value of the space (opportunity cost) .....	<u>150,000</u>	
Total cost, including opportunity cost .....	<u>\$530,000</u>	<u>\$470,000</u>
Net advantage in favor of buying .....		<u>\$60,000</u>

Profits would increase by \$60,000 if the outside supplier's offer is accepted.