CASE 4–35

Break-Even Levels for Individual Products in a Multi-Product Company [LO6, LO9]

Jasmine Richards met her boss, Rick McNeil, at the pop machine in the lobby. McNeil is the vice president of marketing at Down East Lures Corporation. Richards was puzzled by some calculations she had been doing, so she initiated this conversation:

Richards: Rick, I'm not sure how to go about answering the questions that came up at the meeting with the president yesterday.

McNeil: What's the problem?

Richards: The president wanted to know the break-even point for each of the company's products, but I'm having trouble figuring them out.

McNeil: I'm sure you can handle it, Jasmine. And, by the way, I need your analysis on my desk tomorrow morning at 8:00 A.M. sharp so I can look at it before the follow-up meeting at 9:00.

Page 136

Down East Lures makes three fishing lures in its manufacturing facility in Prince Edward Island. Data concerning these products appear below:

	Frog	Minnow	Worm
Normal annual sales volume (units)	100,000	200,000	300,000
Unit selling price	$2.00	$1.40	$0.80
Variable cost per unit	$1.20	$0.80	$0.50

Total fixed expenses for the entire company are $282,000 per year. All three products are sold in highly competitive markets, so the company is unable to raise its prices without losing unacceptable numbers of customers. The company has no work in process or finished goods inventories due to an extremely effective lean manufacturing system.

Required:

1. What is the company's overall break-even point in total sales dollars?
2. Of the total fixed costs of $282,000, $18,000 relate directly to the Frog lure product, $96,000 relate directly to the Minnow lure product, and $60,000 relate directly to the Worm lure product. The remaining fixed expenses of $108,000 consist of common fixed costs such as administrative salaries, rent on the factory building, and advertising expenses for the company as a whole. These common fixed expenses are not directly related to any particular product but must be incurred as part of operating the business.
   a. What is the break-even point in units for each product? *Note:* Management insists that Richards separately calculate the break-even point for each product using its CM per unit and only the fixed expenses that relate directly to that product.
   b. If the company sells exactly the break-even quantity of each product calculated in (*a*), calculate the overall profit of the company. Explain this result to management.
   c. Calculate the company's overall break-even point in units using the weighted-average CM approach. How many units of each product must be sold at the break-even level? Comment on any significant differences you see between these results and those of (*a*) above.