

Demonstration Problem for Chapter 3

Demonstration Problem 3-1 Cost-Volume-Profit Analysis

Jeff Jamail is evaluating a business opportunity to sell cookware at trade shows. Mr. Jamail can buy the cookware at a wholesale cost of \$210 per set. He plans to sell the cookware for \$350 per set. He estimates fixed costs such as plane fare, booth rental cost, and lodging to be \$5,600 per trade show.

Required

- a. Determine the number of cookware sets Mr. Jamail must sell at a trade show to break even (zero profit or loss). Use the following structure to answer this question:
 - (1) Contribution Margin Per Unit Approach:**
 - a. Determine the amount of the contribution margin per unit.
 - b. Explain that when the total contribution margin is sufficient to pay for the fixed cost, Mr. Jamail will break even. Show the computation of break-even in units.
 - c. Show how to compute the break-even point in number of dollars using the break-even point in units and the selling price.
 - d. Confirm the results by preparing an income statement.
 - (2) Contribution Margin Ratio Approach.**
 - a. Calculate the contribution margin ratio.
 - b. Use the ratio to calculate the break-even point in sales dollars, then use the results and the selling price to calculate the break-even point in units.
 - (3) Equation Approach.**
 - a. Calculate the break-even point in units.
 - b. Calculate the break-even point in sales dollars.
- b. Assume Mr. Jamail desires to earn a profit of \$4,900 per show.
 - (1) Determine the sales volume in units (sets of cookware) necessary to earn the desired profit.
 - (2) Determine the sales volume in dollars necessary to earn the desired profit.
 - (3) Using the contribution margin format, prepare an income statement to confirm your answers to parts 1 and 2.
- c. Draw a CVP graph for Mr. Jamail's operation at a trade show.
- d. Determine the margin of safety between the sales volume at the break-even point and the sales volume required to earn the desired profit. Determine the margin of safety both in sales dollars and as a percentage.
- e. After researching the market, Mr. Jamail concludes that the \$350 per set selling price is too high. Customers will likely pay only \$310 per set. Mr. Jamail believes he can obtain a cost reduction from his supplier of \$20 per set (variable cost drops from \$210 per set to \$190 per set) and still provide the level of quality required to achieve a sales volume of 75 sets. Under these circumstances, what amount of fixed costs can Mr. Jamail incur and still obtain the target profit of \$4,900? Support your answer with appropriate computations.