

Quiz Yourself Worksheet: Break-Even Analysis

Parker's Gourmet Cat Treats

Parker is starting a business making gourmet cat treats. He plans to sell them in local pet shops and directly to individual pet owners. He is trying to determine his **gross profit per unit**, **break-even point**, **profit sales goals**, and **total units to sell** for three different price points.

- The variable cost for producing one package of cat treats is \$5, which includes labor and materials.
- Parker's fixed expenses per month are \$900.00, which includes his rent, utilities, insurance, advertising, taxes, and owner's draw.
- Parker is exploring selling his product for three prices: \$8, \$10, and \$13 per bag.
- Parker's profit goal per month is \$100.00.

Gross profit per unit

Parker first wants to figure out his gross profit per unit. Use the equation below to determine gross profit per unit for his three different price options (\$8, \$10, and \$13 per unit). Parker's variable costs per unit are \$5.

$$\text{Price per unit} - \text{Variable Expenses per unit} = \text{Gross Profit per unit}$$

Gross Profit per Unit			
Sales price per unit	@ \$8.00	@ \$10.00	@\$13.00
Variable costs per unit			
Gross profit per unit			

Break-even point

Next, Parker needs to figure out his break-even point. Use calculations from the previous table and the equation below to determine how many bags of cat treats Parker needs to sell each month to reach his break-even point for his three price points (\$8, \$10, and \$13 per bag). Parker's fixed expenses each month are \$900.00.

$$\text{Fixed Expenses} \div \text{Gross Profit per unit} = \text{Break-Even Point (number of units to sell each month)}$$

Break-Even Point			
Sales price options	@ \$8.00	@ \$10.00	@ \$13.00
Monthly fixed expenses			
Gross profit per unit			
Break-even point (number of units to sell)			

Profit Sales Goal

Next, Parker needs to figure out his profit sales goal. This will tell him how many additional bags of cat treats over the break-even point he'll need to sell each month to make a profit. Use calculations from the previous tables and the equation below to determine Parker's profit sales goal for his three price points (\$8, \$10, and \$13 per bag). Recall that Parker's monthly profit goal is \$100.00.

$$\text{Profit Goal} \div \text{Gross Profit} = \text{Profit Sales Goal (additional units to sell)}$$

Profit Sales Goals			
Sales price options	@ \$8.00	@ \$10.00	@ \$13.00
Profit goal			
Gross profit per unit			
Profit sales goal (additional units to sell)			

Total Units to Sell

How many units of cat treats must Parker sell to break-even and reach his profit goal for each price point? Use your answers from the previous tables and the equation below.

$$\text{Break-Even Point} + \text{Profit Sales Goal} = \text{Total Units to sell}$$

Total Units to Sell			
Sales price options	@ \$8.00	@ \$10.00	@ \$13.00
Units sold to break-even			
Units sold to reach profit sales goal			
Total units to sell			