# Algebra: Financial Analyst

**Interstate Food Processing Corporation**

**Job Description:** Provide analyses as required to ensure the organization is meeting its financial objectives. Functions include preparation of budgets, analysis of profitability by customer and product, and the estimation of new products costs and prices.

---

## Problem:

Businesses generally incur two types of expenses: fixed and variable. Fixed expenses are those that do not change with the amount of business. For example, in our business we have certain costs such as rent, electricity, and some employee wages (customer service representatives and billing clerks) that do not change whether we make one sale or one hundred sales. Variable costs, however, increase directly with the amount of sales. In our business, these costs would include items such as raw products, packaging materials (bags and boxes), and the wages of employees that produce the items.

Each time we introduce a new product, we estimate how many cases per month we must sell in order to pay for the fixed costs of the operation and begin to make a profit. This estimate is called a ***Break-Even Analysis*** and is the point where total sales revenue equals total (fixed and variable) costs. The difference between the Selling Price per case and the Variable Costs per case is called the ***Contribution Margin***.

Determine the number of cases that must be sold to reach the break even point.

The following information is available to solve the problem:

Selling price per case (P) $8.95

Variable cost per case (V) $6.45

Fixed Costs per month (F) $24,000.00

Quantity of cases (Q) ?

Break even Quantity ($Q_{BE}$) $Q_{BE} = F / (P-V)$

# Algebra: Financial Analyst

**Interstate Food Processing Corporation**

**Job Description:** Provide analyses as required to ensure the organization is meeting its financial objectives. Functions include preparation of budgets, analysis of profitability by customer and product, and the estimation of new products costs and prices.

---

## See problem for details.

## Solution:

The breakeven point is reached when costs equals profits.

$F + V \bullet Q = P \bullet Q$

$\$24{,}000.00 + 6.45 \bullet Q = 8.95 \bullet Q$

$Q_{BE} = F / (P-V)$

$Q_{BE} = \$24{,}000.00 / (\$8.95 - \$6.45) = 9{,}600$ cases