

# ANSWERS

## PERCENT PROPORTION

Solve each problem by writing and solving a proportion. Show all steps and round your answer to the nearest tenth if necessary.

### Steps to Solve a Proportion

1. Set up the Proportion: Write the two ratios as fractions equal to each other.  $\frac{A}{B} = \frac{C}{D}$
2. Cross-Multiply: Multiply diagonally across the equal's sign.  $A \times D = B \times C$
3. Solve for the Variable: Divide to find the unknown value. Unknown:  $\frac{\text{Product of Known Values}}{\text{Other Known Value}}$
4. Round: Round your answer to the nearest tenth if needed.

a) A chef uses 3 cups of sugar to bake 24 cookies. How many cups of sugar are needed to bake 60 cookies?

#### Solution:

1. Set up the proportion:  $\frac{3 \text{ cups}}{24 \text{ cookies}} = \frac{x \text{ cups}}{60 \text{ cookies}}$
2. Cross-multiply:  $3 \times 60 = 24 \times x$
3. Solve for the Variable:  $180 = 24x \Rightarrow \frac{180}{24} \Rightarrow x = 7.5$
4. Answer: **7.5 cups of sugar are needed to bake 60 cookies.**

b) A car uses 8 gallons of gas to travel 320 miles. How many gallons of gas are needed to travel 500 miles?

#### Solution:

1. Set up the proportion:  $\frac{8 \text{ gallons}}{320 \text{ miles}} = \frac{x \text{ gallons}}{500 \text{ miles}}$
2. Cross-multiply:  $8 \times 500 = 320 \times x$
3. Solve for the Variable:  $4000 = 320x \Rightarrow \frac{4000}{320} \Rightarrow x = 12.5$
4. Answer: **12.5 gallons of gas are needed to travel 500 miles.**

c) A recipe calls for 5 tablespoons of butter to make 20 pancakes. How many tablespoons of butter are needed to make 50 pancakes?

#### Solution:

1. Set up the proportion:  $\frac{5 \text{ tablespoons}}{20 \text{ pancakes}} = \frac{x \text{ tablespoons}}{50 \text{ pancakes}}$
2. Cross-multiply:  $5 \times 50 = 20 \times x$
3. Solve for the Variable:  $250 = 20x \Rightarrow \frac{250}{20} \Rightarrow x = 12.5$
4. Answer: **12.5 tablespoons of butter are needed to make 50 pancakes.**

How Did You Do? 😊 😐 😞