

# 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 car travels 150 miles in 2 hours. How many miles will it travel in 5 hours?

#### Solution:

1. Set up the proportion:  $\frac{150 \text{ miles}}{2 \text{ hours}} = \frac{x \text{ miles}}{5 \text{ hours}}$
2. Cross-multiply:  $150 \times 5 = 2 \times x$
3. Solve for the Variable:  $750 = 2x \Rightarrow \frac{750}{2} \Rightarrow x = 375$
4. Answer: **The car will travel 375 miles in 5 hours.**

b) A factory produces 80 widgets in 4 hours. How many widgets will it produce in 10 hours?

#### Solution:

1. Set up the proportion:  $\frac{80 \text{ widgets}}{4 \text{ hours}} = \frac{x \text{ widgets}}{10 \text{ hours}}$
2. Cross-multiply:  $80 \times 10 = 4 \times x$
3. Solve for the Variable:  $800 = 4x \Rightarrow \frac{800}{4} \Rightarrow x = 200$
4. Answer: **The factory will produce 200 widgets in 10 hours.**

c) A hiker covers 6 miles in 1.5 hours. How far will they hike in 4 hours?

#### Solution:

1. Set up the proportion:  $\frac{6 \text{ miles}}{1.5 \text{ hours}} = \frac{x \text{ miles}}{4 \text{ hours}}$
2. Cross-multiply:  $6 \times 4 = 1.5 \times x$
3. Solve for the Variable:  $24 = 1.5x \Rightarrow \frac{24}{1.5} \Rightarrow x = 16$
4. Answer: **The hiker will cover 16 miles in 4 hours.**

How Did You Do? 😊 😐 😞