

# 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 machine packs 500 boxes in 8 hours. How many boxes will it pack in 5 hours?

#### Solution:

1. Set up the proportion:  $\frac{500 \text{ boxes}}{8 \text{ hours}} = \frac{x \text{ boxes}}{5 \text{ hours}}$
2. Cross-multiply:  $500 \times 5 = 8 \times x$
3. Solve for the Variable:  $2500 = 8x \Rightarrow \frac{2500}{8} \Rightarrow x = 312.5$
4. Answer: **The machine will pack 312.5 boxes in 5 hours.**

b) A printer prints 250 pages in 25 minutes. How many pages can it print in 40 minutes?

#### Solution:

1. Set up the proportion:  $\frac{250 \text{ pages}}{25 \text{ minutes}} = \frac{x \text{ pages}}{40 \text{ minutes}}$
2. Cross-multiply:  $250 \times 40 = 25 \times x$
3. Solve for the Variable:  $10000 = 25x \Rightarrow \frac{10000}{25} \Rightarrow x = 400$
4. Answer: **The printer can print 400 pages in 40 minutes.**

c) A cyclist travels 36 miles in 2 hours. How far will they travel in 7 hours?

#### Solution:

1. Set up the proportion:  $\frac{36 \text{ miles}}{2 \text{ hours}} = \frac{x \text{ miles}}{7 \text{ hours}}$
2. Cross-multiply:  $36 \times 7 = 2 \times x$
3. Solve for the Variable:  $252 = 2x \Rightarrow \frac{252}{2} \Rightarrow x = 126$
4. Answer: **The cyclist will travel 126 miles in 7 hours.**

How Did You Do? 😊 😐 😞