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: $\frac{\textit{Product of Known Values}}{\textit{Other Known Value}}$
4. Round: Round your answer to the nearest tenth if needed.

a) A car travels 180 miles in 3 hours. How many miles will it travel in 7 hours if it maintains the same speed?

Solution:

1. Set up the proportion: $\frac{180\ miles}{3\ hours} = \frac{x\ miles}{7\ hours}$
2. Cross-multiply: $180 \times 7 = 3 \times X$
3. Solve for the Variable: $1260 = 3X \Rightarrow \frac{1260}{3} \Rightarrow X = 420$
4. Answer: **The car will travel 420 miles in 7 hours.**

b) A runner completes 10 miles in 1.5 hours. How many miles will they run in 4 hours?

Solution:

1. Set up the proportion : $\frac{10\ miles}{1.5\ hours} = \frac{x\ miles}{4\ hours}$
2. Cross-multiply: $10 \times 4 = 1.5 \times X$
3. Solve for the Variable: $40 = 1.5X \Rightarrow \frac{40}{1.5} \Rightarrow X = 26.7$
4. Answer: **The runner will run 26.7 miles in 4 hours.**

c) A recipe uses 2 cups of flour to make 12 cookies. How many cups of flour are needed to make 30 cookies?

Solution:

1. Set up the proportion: $\frac{2\ cups}{12\ cookies} = \frac{x\ cups}{30\ cookies}$
2. Cross-multiply: $2 \times 30 = 12 \times X$
3. Solve for the Variable: $60 = 12X \Rightarrow \frac{60}{12} \Rightarrow X = 5$
4. Answer: **5 cups of flour are needed to make 30 cookies.**

How Did You Do?