

# Solving Proportions

To solve a proportion, you can use cross products and inverse operations.

Let's try an example! Solve the following proportion:  $\frac{9}{15} = \frac{x}{50}$

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First, multiply the values across the corners of the proportion. Multiply 9 by 50, and multiply 15 by  $x$ .

$$9 \cdot 50 = 15x$$

Write an equation where the products are equal.

$$\frac{450}{15} = \frac{15x}{15}$$

Simplify. Then, use inverse operations to solve.

$$30 = x$$

Solve. So,  $x = 30$ , which shows that  $\frac{9}{15} = \frac{30}{50}$ .

Solve each proportion for the variable.

1.  $\frac{m}{30} = \frac{28}{40}$

$$m = \underline{\hspace{2cm}}$$

2.  $\frac{14}{35} = \frac{18}{p}$

$$p = \underline{\hspace{2cm}}$$

3.  $\frac{9}{21} = \frac{f}{35}$

$$f = \underline{\hspace{2cm}}$$

4.  $\frac{c}{65} = \frac{8}{13}$

$$c = \underline{\hspace{2cm}}$$

5.  $\frac{36}{60} = \frac{s}{45}$

$$s = \underline{\hspace{2cm}}$$

6.  $\frac{12}{32} = \frac{36}{h}$

$$h = \underline{\hspace{2cm}}$$

7.  $\frac{43}{e} = \frac{24}{48}$

$$e = \underline{\hspace{2cm}}$$

8.  $\frac{48}{k} = \frac{16}{35}$

$$k = \underline{\hspace{2cm}}$$

9.  $\frac{26}{169} = \frac{z}{52}$

$$z = \underline{\hspace{2cm}}$$