

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

$$m = \underline{21}$$

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

$$p = \underline{45}$$

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

$$f = \underline{15}$$

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

$$c = \underline{40}$$

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

$$s = \underline{27}$$

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

$$h = \underline{96}$$

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

$$e = \underline{86}$$

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

$$k = \underline{105}$$

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

$$z = \underline{8}$$