

Proportion – shows ratios (or fractions) that are equivalent

$$\text{Ex. } \frac{4}{2} = \frac{8}{4} \quad \frac{3}{5} = \frac{9}{15}$$

In a proportion the cross products are equal

Cross Products – multiply diagonally

### Solving for a missing value

Steps:

1. Copy the problem
2. Find the cross products (multiply diagonally)
3. Write the 2 cross products as an equation (using an = sign)
4. Divide on both sides to get the variable by itself

$$\begin{aligned} \text{Ex. } \quad \frac{9}{6} &= \frac{6}{n} \\ 9n &= 36 \quad (\text{cross products}) \\ \boxed{n = 4} &\quad (\div \text{ both sides by } 9) \end{aligned}$$

$$\begin{aligned} \text{Ex. } \quad \frac{n}{36} &= \frac{5}{6} \\ 180 &= 6n \quad (\text{cross products}) \\ \boxed{30 = n} &\quad (\div \text{ both sides by } 6) \end{aligned}$$

$$\begin{aligned} \text{Ex. } \quad \frac{9}{n} &= \frac{6}{18} \\ 162 &= 6n \quad (\text{cross products}) \\ \boxed{27 = n} &\quad (\div \text{ both sides by } 6) \end{aligned}$$