

Proportion: An equation stating that two ratios are equivalent

$$\frac{a}{b} = \frac{c}{d}$$

How to determine if ratios are proportional :

Simplify both sides to see if they are equal

EX: $\frac{2}{7}$ and $\frac{6}{21}$

$\frac{2}{7} = \frac{2}{7}$ Yes

Determine if the ratios are proportional:

$$\frac{192}{256} = \frac{48}{64}$$

$$\downarrow \qquad \qquad \downarrow$$

$$\frac{3}{4} = \frac{3}{4}$$

Yes

Solving Proportions : You can solve for a missing part of a proportion if you know the other 3 parts.

~~★~~ Use Cross-Products (butterfly wings)

EX1:

$$\frac{6}{t} = \frac{7}{56}$$

$$7t = 336$$

$$t = 48$$

Ex 2 :

$$\frac{x}{9} = \frac{7}{12}$$

$$\frac{12x}{12} = \frac{63}{12}$$

$$x = 5.25$$