



Cross Multiplication to Solve Proportions

A proportion is an equation which states that two ratios are equal.

When the terms of a proportion are cross multiplied, the cross products are equal.

Cross multiplication is the multiplication of the numerator of the first ratio by the denominator of the second ratio and the multiplication of the denominator of the first ratio by the numerator of the second ratio.

$$\frac{21}{70} = \frac{3}{10}$$

$$21 \times 10 = 70 \times 3$$

$$210 = 210$$

If one term of a proportion is not known, cross-multiplication can be used to find the value of that term.

$$\frac{x}{70} = \frac{3}{10}$$

$$x \times 10 = 70 \times 3$$

$$10x = 210$$

$$\frac{10x}{10} = \frac{210}{10}$$

$$x = 21$$