

Proportion Rules

Reciprocals of Proportional Ratios

The reciprocals of two proportional ratios are also proportional.

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

Example:

$$\frac{3}{4} = \frac{6}{8} \rightarrow \frac{4}{3} = \frac{8}{6}$$

Swapping the Means of Proportional Ratios

If the means of two proportional ratios are swapped, the new ratios are also proportional.

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

Example:

$$\frac{3}{4} = \frac{6}{8} \rightarrow \frac{3}{6} = \frac{4}{8}$$

Adding the Denominators to the Numerators

If the values in the denominators are added to the numerators, the new ratios are also proportional.

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

Example:

$$\frac{3}{4} = \frac{6}{8} \rightarrow \frac{3+4}{4} = \frac{6+8}{8}$$