

# Proportions

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related values  
ex: equivalent fractions

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$$

numerators and denominators increase by SAME factor

to increase a proportion,  
**MULTIPLY**  
numerator and denominator

to Decrease a proportion,  
Divide the num. and den.

Examples:

1. Create an equivalent fraction. Show why.

a)  $\frac{4}{5} \times \frac{3}{3} = \frac{12}{15}$

b)  $\frac{56}{63} \div \frac{7}{7} = \frac{8}{9}$

2. Find the missing values: (tenth)

a)  $\frac{2}{3} \times \frac{?}{57} = \frac{?}{57}$       $\frac{57 \times 2 \div 3}{\text{underline}} = 38$

cross multiply then divide  
(equal sign and the fraction) (by remaining number)

$\frac{2}{3} \times \frac{?}{6} = \frac{?}{6}$

b)  $\frac{7}{10} \times \frac{108.5}{?} = \frac{108.5}{?}$       $108.5 \times 10 \div 7 = 155$