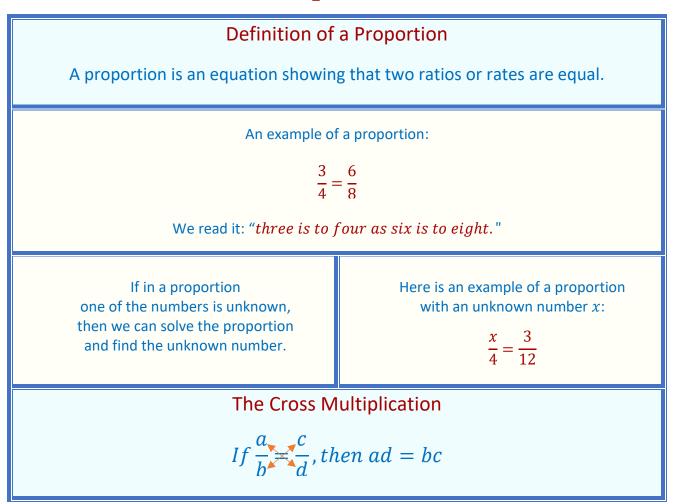
Proportions



Examples of Solving Proportions		
Example:	Explanation:	
Solve the proportion: $\frac{x}{4} = \frac{3}{12}$ $x \cdot 12 = 4 \cdot 3$	Use cross-multiplying to multiply x and 12, then 4 and 3.	
$12x = 12$ $\frac{12x}{12} = \frac{12}{12}$ $x = 1$	Divide both sides by 12.	

Solve the proportion: $\frac{x}{7} = \frac{3}{25}$ $x \cdot 25 = 7 \cdot 3$	Use cross-multiplying to multiply x and 25, then 7 and 3.
$25x = 21$ $\frac{25x}{25} = \frac{21}{25}$ $x = \frac{21}{25}$	Divide both sides by 25.
Solve the proportion: $\frac{x+2}{3} = \frac{4}{5}$ $(x+2) \cdot 5 = 3 \cdot 4$ $5x + 10 = 12$ $-10 - 10$	Use cross-multiplying to multiply $x + 2$ and 5, then 3 and 4. Have $x + 2$ in parentheses when multiplying. Use distributive property to remove the parentheses: $(x + 2) \cdot 5 = 5x + 10$
$5x = 2$ $\frac{5x}{5} = \frac{2}{5}$ $x = \frac{2}{5}$	Divide both sides by 5.

Examples of Word Problems that Involve Proportions		
Example:	Explanation:	
Six cans cost \$18. How much will ten cans cost?		
Solution Let x represent the cost for 10 cans.		
6 cans are to \$18 as 10 cans are to \$x. $\frac{6}{18} = \frac{10}{x}$	In this proportion, we will write the number of cans in the numerators, and the cost in the denominators.	
$6 \cdot x = 18 \cdot 10$	Use cross-multiplying to multiply 6 and x, then 18 and 10.	
$6x = 180$ $\frac{6x}{6} = \frac{180}{6}$	Divide both sides by 6.	
x = 30 So, ten cans will cost \$30.		
A wall, 12 feet long, contains 420 bricks. How many bricks will a 20 feet brick wall contain?		
Solution Let x represent the number of bricks of the 20 feet wall. 12 feet is to 420 bricks as 20 feet is to x bricks.	In this proportion, we will write the number of feet in the numerators, and the number of bricks in the denominators.	
$\frac{12}{420} = \frac{20}{x}$ $12 \cdot x = 420 \cdot 20$	Use cross-multiplying to multiply 12 and x , then 420 and 20.	
$12x = 8,400$ $\frac{12x}{12} = \frac{8,400}{12}$	Divide both sides by 12.	
x = 700 So, the 20 feet brick wall contains 700 bricks.		