Pre-Algebra
Solving One-Step Equations

The main thrust in a one-step equation is to isolate the variable on one side of the equation, and have all the "numbers" on the other side. This is accomplished by "un-doing" whatever operation in the equation is interacting with the variable. By definition, a one-step equation requires only one step to develop a solution.

Operations are "un-done" by applying the opposite (or, inverse) operation on the equation. Inverse operations are listed in the following table:

Operation	Inverse Operation
Addition	Subtraction
Subtraction	Addition
Multiplication	Division
Division	Multiplication
Exponent	Logarithm
Logarithm	Exponent

Examples:

Example 1:

Solve: $x + 4 = 9$

Subtract 4: $-4 \quad -4$

Result: $x = 5$

Example 2:

Solve: $x - 3 = -6$

Add 3: $+3 \quad +3$

Result: $x = -3$

Example 3:

Solve: $3x = -15$

Divide by 3: $\frac{3x}{3} = \frac{-15}{3}$

Result: $x = -5$

Example 4:

Solve: $\frac{1}{6}x = 4$

Multiply by 6: $\cdot 6 \quad \cdot 6$

Result: $x = 24$