

Algebraic Equations and Answers (Speedy Study Guides)

**Speedy
Study
Guides**

**ALGEBRAIC EQUATIONS
AND ANSWERS**

This section illustrates the process of solving equations of various forms. It also shows you how to check your answer three different ways: algebraically, graphically, and using the concept of equivalence. The following table is a partial list of typical equations.

LINEAR EQUATIONS - Solve for x in the following equations.

$x - 4 = 10$

Recall the following:

- A linear equation is a polynomial of degree 1.
- In order to solve for the unknown variable, you must isolate the variable.
- In the order of operations, multiplication and division are completed before addition and subtraction.

Example 1. Solve for x in the following equation.

$x - 4 = 10$

Add 4 to both sides of the equation:

$x = 14$

The answer is $x = 14$

Check the solution by substituting 14 in the original equation for x. If the left side of the equation equals the right side of the equation after the substitution, you have found the correct answer.

$2x - 4 = 14 - 4 = 10$
 $5x - 6 = 3x - 8$

Subtract 3x from both sides of the equation:

$2x - 6 = -8$

Add 6 to both sides of the equation:

$2x = -2$

Divide both sides by 2:

$x = -1$

The answer is $x = -1$

Check the solution by substituting -1 in the original equation for x. If the left side of the equation equals the right side of the equation after the substitution, you have found the correct answer.

Left side: $5(-1) - 6 = -11$
 Right side: $3(-1) - 8 = -11$

equation for x. If the left side of the equation equals the right side of the equation after the substitution, you have found the correct answer.

$2x - 4 = 10$

Add 4 to both sides of the equation:

$2x = 14$

Divide both sides by 2:

$$x = 7$$

The answer is $x = 7$

Check the solution by substituting 7 in the original equation for x. If the left side of the equation equals the right side of the equation after the substitution, you have found the correct answer.

$2(7) - 4 = 14 - 4 = 10$
 $5x - 6 = 3x - 8$

Subtract 3x from both sides of the equation:

$2x - 6 = -8$

Add 6 to both sides of the equation:

$2x = -2$

Divide both sides by 2:

$x = -1$

The answer is $x = -1$

Check the solution by substituting -1 in the original equation for x. If the left side of the equation equals the right side of the equation after the substitution, you have found the correct answer.

Left side: $5(-1) - 6 = -11$
 Right side: $3(-1) - 8 = -11$

$$\frac{3}{4}x + \frac{5}{6} = 5x - \frac{125}{3}$$

Multiply both sides by the lowest common multiple of 4, 6, and 3, or 12:

$$12\left(\frac{3}{4}x + \frac{5}{6}\right) = 12\left(5x - \frac{125}{3}\right)$$

Simplify:

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Reviews

This is actually the greatest publication i have go through right up until now. I really could comprehended every little thing using this composed e book. I realized this book from my i and dad advised this ebook to learn.
(Jimmie Schmidt I)

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