

UNIT 1 LESSON 2

SOLVING LINEAR EQUATIONS

It is important to remember the Properties of Equality. However, now we will solve equations without listing the properties.

Solving Equations with the Variable in Both Expressions of the Equation

1. Choose which side of the equation you would like the variable to appear on.
2. Add or subtract the other variable from both sides of the equation using either the addition or subtraction property of equality.
3. Simplify both expressions.
4. Continue to solve the equation.
5. As with any equation, check that your answer is correct by substituting the value into the original equation to ensure both expressions are equal.

EX #1) Solve the equation $5x + 9 = 2x - 36$

$$5x - 2x + 9 = -36$$

$$3x + 9 = -36$$

$$3x = -36 - 9$$

$$3x = -45$$

$$x = -15$$

EX #2) Solve the equation $2(3x + 1) = 6x + 14$

$$6x + 2 = 6x + 14$$

$$6x - 6x + 2 = 14$$

$$2 = 14$$

This equation has NO SOLUTION. The math statement is not true.

EX #3) Solve the equation $3(4x + 2) = 12x + 6$

$$12x + 6 = 12x + 6$$

Since both sides of the equation are the same = INFINITE SOLUTIONS

YOU TRY!!!

EX #4) $4x - 15 = 17 - 4x$

EX #5) $8(3x + 2) = 2(12x - 5)$

EX #6) $2(8x + 2) = 16x + 4$