

1. Solving a Linear Equation in One Variable
2. You should be familiar with the Distributive Property and combining like terms. In this lesson, we will solve an equation involving a variable, but with no exponents on the variable. This type of equation is related to the graph of a line, and is therefore called a linear equation.
3.
 - (a) Here is an example. We wish to find the values for x which make the equation true. It turns out that in this type of equation, that we will never get more than one answer, unless the two sides of the equation are the same expression.
 - (b) The first step is to use the distributive property to expand the parts of the expression in parentheses. Here, we distribute the -3 .
 - (c) Next, on each side of the equation, combine like terms. In general, you may need to combine like terms in several places, but in this case, we only need to add the 7 and -12 . At this point, each side of the equation will have at most two parts, a term involving the variable x , and a constant.
 - (d) We can now eliminate one of the variable terms by subtracting the same quantity from both sides. In this case, we subtract $6x$ from both sides, though it would work equally well to subtract $8x$ on both sides to get the variable in the left side of the equation on the bottom line.
 - (e) We now eliminate the constant from the side that contains the variable. In this case, we eliminate the -11 by adding 11 to both sides.
 - (f) Finally, we divide both sides by 2
4. To recap: To solve a linear equation in one variable, first distribute, then combine like terms. Eliminate the variable from one side of the equation and the constant from the other. Finally, divide off the coefficient on the variable.