# How do you solve multi-step linear equations with variables on both sides?

1. Collect all of the terms with the variable on one side and combine like terms.
2. Collect all the constants on the other side of the equation and combine like terms.
3. Solve the resulting one-step equation.

$7x + 19 = -2x + 55$

$16 - 3x = 11 + x$

If the equation has parentheses:
1. Use the distributive property to eliminate the parentheses.
2. Combine like terms on the same side of the equality. Now proceed as listed above.
3. Collect all of the terms with the variable on one side and combine like terms.
4. Collect all the constants on the other side of the equation and combine like terms.
5. Solve the resulting one-step equation.

$2x + 3(4x - 3) = 8 - 3x$

$-4 - (2 - 3x) = 3(2x - 1) + 5$

Note: If your variables cancel out, then you look at the arithmetic statement and determine whether it is true or false. If true, then the solution is all real numbers. If false, then there is no solution.