Unit 1: Systems of Linear Equations

Day 6: Solving Systems using Elimination

Today we will...

1. Learn how to solve systems algebraically using the Method of Elimination.

Sometimes it is inconvenient to rearrage an equation to get one variable in terms of another. You may end up with fractions or more difficult equations to work with.

The Method of Elimination uses addition and subtraction to 'eliminate' one variable, so that you can solve for the remaining variable.

For example: $3x - 4y = 10$

$x + 4y = -2$

We can still use the method of elimination when the coefficients are not the same:

$$x + 4y = 7$$
$$4x - 3y = 9$$

There is no 'magic' number to multiply by.

You are always trying to get the coefficient of either the *x*-variable or the *y*-variable the same in both equations so that you can add or subtract as necessary to eliminate that variable.

Solve the following using the method of elimination.

$$2x + 5y = 10$$

$$3x + 4y = 8$$

Homework:

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