Unit 1: Systems of Linear Equations

Day 5: Solving Systems using Substitution

Today we will...

1. Learn how to solve a systems algebraically by using the method of substitution

Consider the following linear system.

$$x + y = 5$$

$$y = 3 + x$$

To solve the system, we are looking for the point of

_____.

At this point, the _____ for both the *x*- and *y*-variables are _____ in both equations.

This can help us solve the system.

We can SUBSTITUTE an expression for one variable into the other equation (note....don't substitute into the same equation!!)

Sometimes, we have to rearrage one equation to get one variable in terms of another.

Consider: $3y + x = 7$

$4x - 2y = 0$

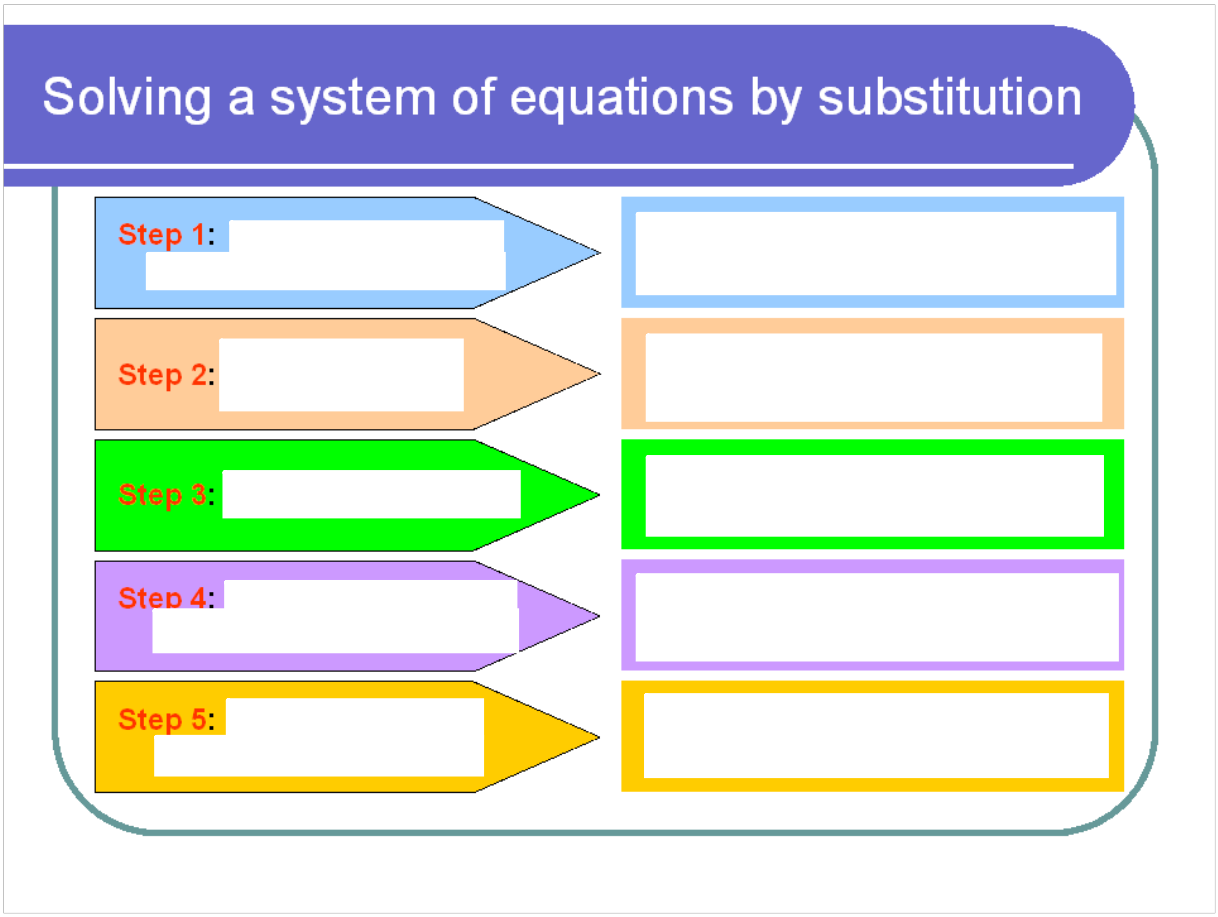
Example: Solve each of the following linear systems using the method of substitution.

a) $y = x + 1$

$y = -x + 5$

b) $5x + 3y = 14$

$2x - y = 10$


Solving a system of equations by substitution
Step 1:
Step 2:
Step 3:
Step 4:
Step 5:

Practice!
page 92 #1, 2, 4, 7, 8 (ace for each)