Algebra 1 6.2

Solve systems of equations using substitution method

Solve problems using substitution of equations

(x, y)

solve

solve by graphing

substitution

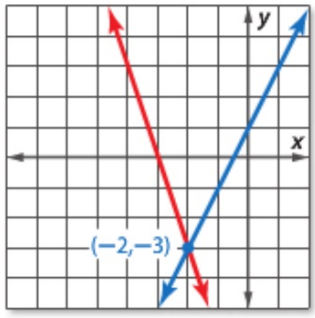
* substitution method

no solution vs all real

whiteboards

you are the coach...

matching activ (if time)



GuidedPractice

1A. $y = 4x - 6$
$5x + 3y = -1$

Remember cut & paste activity?
You are the coach.

$y = 3x - 2$ $\quad 2x - y = 5$

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

$y = 3 \cdot -3 - 2$
$y = -9 + 2$

$2x - 3x + 2 = 5$

$-x + 2 = 5$
$-2 \quad -2$

$\frac{-x}{-1} = \frac{3}{-1}$ $\quad x = -3$

(-3, -11)

$-11 = 3 \cdot -3 - 2$
$-11 = -9 + 2$
$2 \cdot -3 - 11 = 5$
$-6 + 4 = 5$

KeyConcept Solving by Substitution

Step 1 When necessary, solve at least one equation for one variable.

Step 2 Substitute the resulting expression from Step 1 into the other equation to replace the variable. Then solve the equation.

Step 3 Substitute the value from Step 2 into either equation, and solve for the other variable. Write the solution as an ordered pair.

Make a good choice about which one is the sub list.

Example 2 Solve and then Substitute

Use substitution to solve the system of equations.

$x + 2y = 6$
$3x - 4y = 28$

$x + 2y = 6$
$-2y \quad -2y$
$x = -2y + 6$

$3(-2y+6) - 4y = 28$

How to decide??? Solve for x or y???

$(\quad ; -1)$

GuidedPractice

2A. $4x + 5y = 11$

$y - 3x = -13$

$+3x \quad +3x$

$y = 3x + 13$

2B. $x - 3y = -9$
$5x - 2y = 7$

$3 = 3$

T = inf many

Whiteboards

$y = 2x + 3$

$4x - 2y = 8$

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

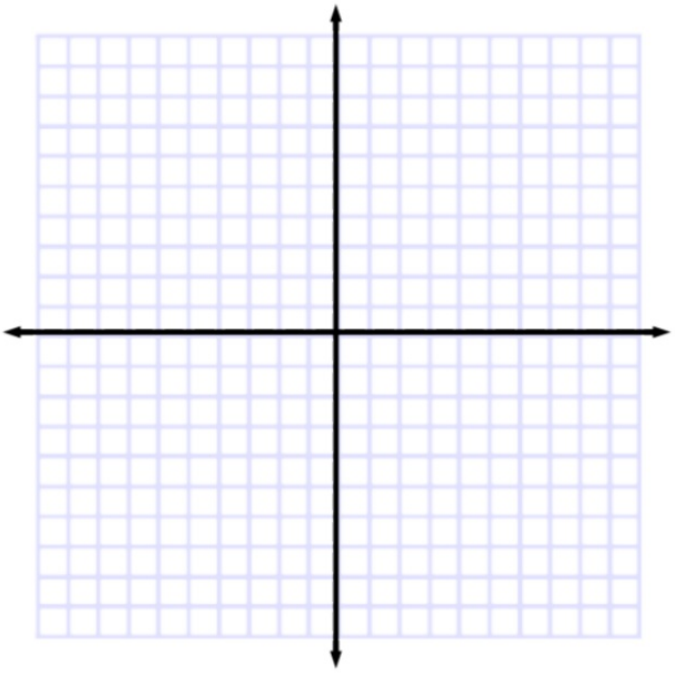
$4x - 4x + -6 = 8$

$-6 = 8$

F = no sol

$y = 2x + 3$

$2x - y = -5$



$y = 5x + 3$

$10x + 6 = 2y$

So when is it "no solution" and when is it "all numbers"?
How to tell?

matching activ. (if time)