Unit 2 2.6 Name _____ Period_____

Solving Systems by Elimination Notes

Objective: Use the elimination method to solve a system of equations.

REVIEW:

1) What method was used to solve this system of equations?

$y = x + 1$

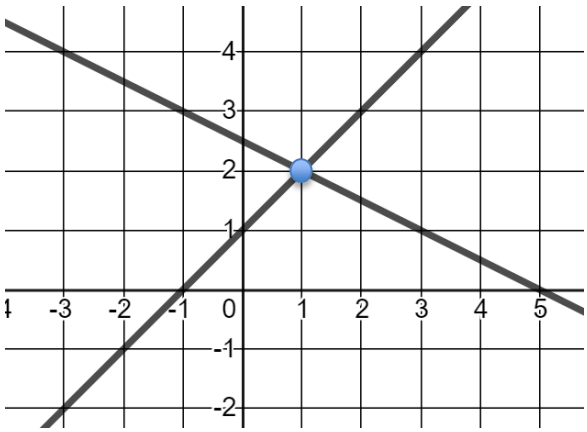
$x + 2y = 5$

$x + 2y = 5$

$-x \quad -x$

$\frac{2y}{2} = \frac{-x}{2} + \frac{5}{2}$

$y = -\frac{1}{2}x + 2.5$



Method used is _____

Final answer _____

2) What method was used to solve this system of equations?

$y = x + 1$

$x + 2y = 5$

Method used is _____

Final answer _____

$x + 2(x + 1) = 5$

$x + 2x + 2 = 5$

$3x + 2 = 5$

$3x = 3$

$x = 1$

$y = 1 + 1$

$y = 2$

One solution: (1,2)

Method 3 - The _____ Method

STEP 1: Write your equations in standard form. x's, y's, and constants should be written under each other in columns.

STEP 2: Choose a variable to eliminate. You may have to multiply one or both equations by a constant so the variable you wish to eliminate has opposite coefficients.

STEP 3: Add the equations. One of your variables will be eliminated.

STEP 4: Solve for the remaining variable.

STEP 5: Substitute your answer from step 4 into any of the equations and solve for the other variable.

Example 1

$-x + y = 1$

$x + 2y = 5$

Example 2

Solve the system of equations below using the elimination method.

$$-x - 3y = -5$$
$$x + 2y = 10$$

Example 3

Solve the system of equations below using the elimination method

$$x + y = -3$$
$$x - y = 1$$

Try these on your own

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

$$8x - 4y = 36$$
$$3x + 4y = -14$$

$$-2x - 9y = -25$$
$$4x + 9y = 23$$

Name _____

Solving Systems by Elimination Notes - Day 2

Objective: Use the elimination method to solve a system of equations

What if you have a system of equations that looks like this? Now what?

$5x + y = 9$

$10x - 7y = -18$

Example 2

$-3x + 7y = -16$

$-9x + 5y = 16$

Example 3

$16x - 10y = 10$

$-8x - 6y = 6$

Example 4

$-7x - 8y = 9$

$-4x + 9y = -22$

Example 5

$5x + 4y = -14$

$3x + 6y = 6$

Try these on your own:

$$-4x - 2y = 14$$
$$-10x + 7y = -25$$

$$4x + 15y = 17$$
$$-x + 5y = -13$$

$$2x + 4y = -4$$
$$3x + 5y = -3$$

$$5x - 6y = 25$$
$$4x + 2y = 3$$

$$3y = -15$$
$$x + y = 10$$

$$2x - 4y = 8$$
$$y = \frac{1}{2}x + 6$$

$$3x + 8y = -14$$
$$x = 2$$

$$2x - 7y = 9$$
$$4y - 3x = 6$$

$$\frac{1}{3}x - y = -1$$
$$\frac{1}{5}x - \frac{2}{5}y = -1$$