Name: _____ Period: ____ 1.29.2019

Solving Two Equations—Addition/Elimination Method I

Solve the following problems by using the elimination method. Write the point of intersection on the line provided.

Problem 1 is modeled for you below:

Solutions:

1. $x+y=2$
$x-y=0$

Add equations together.	*Now substitute into equation.*
$x+y=2$ $+\ x-y=0$ $2x=2$ Therefore x = 1	$1+y=2 \rightarrow 1+1=2$ $1-y=0 \rightarrow 1-1=0$ *In each case, y=1 to make the equation true.*

x = 1 , y = 1

(1,1) is the point of intersection for the two equations, the solution to the system of equations.

2. $x+3y=5$
$5x-3y=7$

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3. $2x+2y=0$
$4x-2y=12$

_____

4. $9x-8y=12$
$-9x+4y=-24$

_____

5. $5x-2y=-13$
$4x+2y=22$

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Solve the system. $y = x - 5$ Equation 1

$y = -3x + 7$ Equation 2

Step 1: Make a table of values.

Step 2: Find an x-value that gives the same y-value for both equations.

∴ The solution is $(3, -2)$.

x	0	1	2	3
$y = x - 5$	-5	-4	-3	-2
$y = -3x + 7$	7	4	1	-2

Solving Systems of Equations

A **system of linear equations** is a set of two or more linear equations in the same variables. An example is shown at the right. A **solution of a system of linear equations** in two variables is an ordered pair that is a solution of each equation in the system.

$y = 2x - 3$

Fill in the table below.

x	0	1	2	3	4	5
y						

$y = -3x + 12$

Fill in the table below.

x	0	1	2	3	4	5
y						

In the tables, which x- and y-coordinates are the same? → (,)

Solving Two Equations—The Substitution Method I

Solve the following problems by using the substitution method. Write the point of intersection on the line provided.

1. $2y = x + 2$
   $y = -2x + 6$

   _____

   Workspace:

2. $3y = 15$
   $3x - 15y = 0$

   _____

   Workspace:

3. $x + 2 = 0$
   $x + y = 5$

   _____

   Workspace:

4. $y = 2x + 3$
   $x + y = 6$

   _____

   Workspace: