

"I can write and solve systems of equations modeling real world applications"

Take out HW! (Page 12-13)

**Warm Up:** Identify which is the BEST method to use to solve each of the systems of equations algebraically; you don't have to solve for the solution! Write either substitution or elimination.

1)  $6x - y = 11$   
 $2x + 3y = 7$

2)  $y = 2x + 5$   
 $y = 3x - 1$

3)  $x - y = 6$   
 $y + x = 2$

Method: Elimination

Method: Substitution

Method: Elimination

$$\begin{array}{r} x + y = 6 \\ x + y = 2 \end{array}$$

Solve the following system of equations-

$$\begin{array}{l} y = 2x + 3 \\ y = 5x \end{array}$$

$$\begin{array}{r} y = 2(1) + 3 \\ y = 2 + 3 \\ \boxed{y = 5} \end{array} \quad \begin{array}{r} 2x + 3 = 5x \\ -2x \quad -2x \\ \hline 3 = 3x \\ \frac{3}{3} = \frac{3x}{3} \\ \boxed{x = 1} \end{array}$$

$(1, 5)$

**Solution**

$$\begin{array}{r} 2x + y = 4 \\ 2x - y = 0 \\ \hline 4x = 4 \\ \frac{4x}{4} = \frac{4}{4} \\ \boxed{x = 1} \end{array} \quad \begin{array}{r} 2(1) + y = 4 \\ 2 + y = 4 \\ -2 \quad -2 \\ \hline y = 2 \\ \boxed{y = 2} \end{array}$$

$3x - 6y = 12$   
 $5x - y = 2$

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Solve the following system of equations:

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

~~$x + 2 = x + 6$~~

$2 = 6$

No sol.

$x - y = 4$   
 $x + y = -16$

$2x = -12$   
 $x = -6$

$x + y = -16$   
 $-6 + y = -16$   
 $+6 \quad +6$   
 $y = -10$

**Page 16 I can write & solve systems of equations.**

Warm Up: Which ordered pair satisfies the system of equations?

$$\begin{array}{r}
 3x - y = 8 \\
 + \quad 1x + y = 2 \\
 \hline
 4x = 10 \\
 \hline
 x = 2.5
 \end{array}$$

(1) ~~(3, -1)~~

(2)  $\checkmark$  (2.5, 0.5)

(3)  $\checkmark$  (2.5, -0.5)

$x + y = 2$   
 $2.5 + y = 2$   
 $-2.5 \quad -2.5$   
 $y = -0.5$

(4) ~~(5, 3)~~

