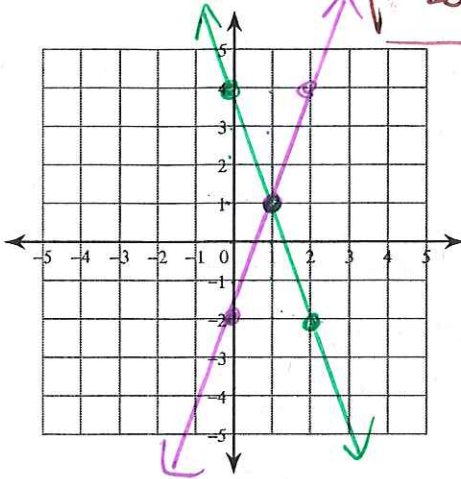


Systems of Two Equations

Solve each system by graphing.

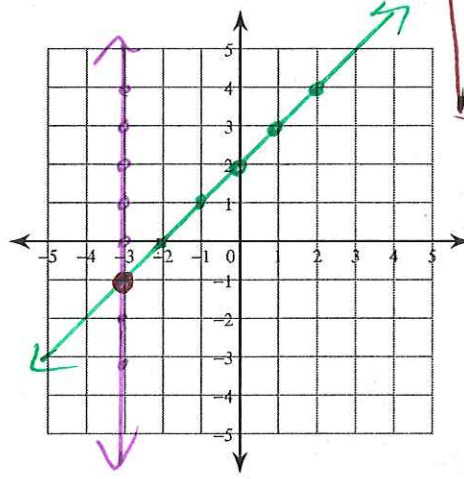
1) $y = -3x + 4$
 $y = 3x - 2$

$(1, 1)$
 = solution



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

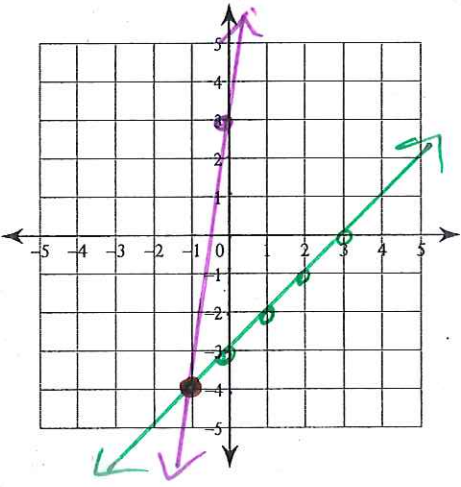
Solution:
 $(-3, -1)$



3) $x - y = 3$
 $7x - y = -3$

$-y = -x + 3$
 $y = x - 3$
 $7x - y = -3$
 $-y = -7x - 3$
 $y = 7x + 3$

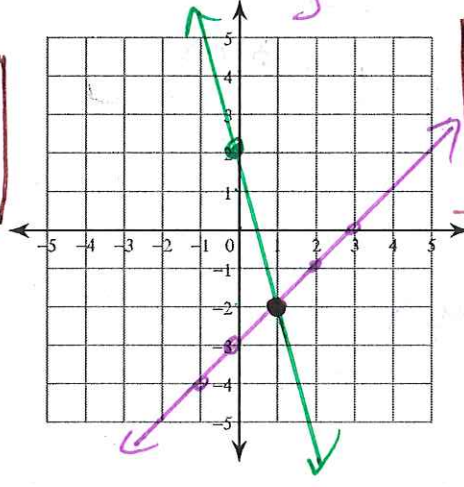
Solution:
 $(-1, -4)$



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

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

Solution:
 $(1, -2)$



Solve each system by substitution.

5) $y = 4x - 9$
 $y = x - 3$

$4x - 9 = x - 3$
 $3x = 6$
 $x = 2$
 Solution:
 $(2, -1)$

$y = x - 3$
 $y = 2 - 3$
 $y = -1$

6) $4x + 2y = 10$
 $x - y = 13$

Solution:
 $(6, -7)$

$x = y + 13$
 $4(y + 13) + 2y = 10$
 $4y + 52 + 2y = 10$
 $6y + 52 = 10$
 $6y = -42$
 $y = -7$
 $x = -7 + 13$
 $x = 6$

7) $y = -5$
 $5x + 4y = -20$

Solution:
 $(0, -5)$

$5x + 4(-5) = -20$
 $5x - 20 = -20$
 $5x = 0$
 $x = 0$

8) $x + 7y = 0$
 $2x - 8y = 22$

$x = -7y$
 $2(-7y) - 8y = 22$
 $-14y - 8y = 22$
 $-22y = 22$
 $y = -1$
 $x = -7(-1)$
 $x = 7$
 Solution:
 $(7, -1)$

Name _____

Period _____

3-1 C Solving Systems with Elimination

Solve each system by elimination.

$$\begin{array}{r} 1) \quad -3x - 10y = 9 \\ + \quad 6x + 10y = -18 \\ \hline \end{array}$$

$$\frac{3x}{3} = \frac{-9}{3}$$

$$x = -3$$

$$\begin{array}{r} 6x + 10y = -18 \\ 6(-3) + 10y = -18 \\ -18 + 10y = -18 \\ +18 \quad \quad +18 \\ \hline \end{array}$$

$$10y = 0$$

$$y = 0$$

$$\text{solution: } (-3, 0)$$

$$\begin{array}{r} 3) \quad 2x - 9y = 19 \\ + \quad -2x - 7y = -3 \\ \hline \end{array}$$

$$\frac{-16y}{-16} = \frac{16}{-16}$$

$$y = -1$$

$$\begin{array}{r} 2x - 9y = 19 \\ 2x - 9(-1) = 19 \\ 2x + 9 = 19 \end{array}$$

$$2x = 10$$

$$x = 5$$

$$\text{solution: } (5, -1)$$

$$\begin{array}{r} 2) \quad -x - y = -8 \\ + \quad x + 2y = 18 \\ \hline \end{array}$$

$$y = 10$$

$$\begin{array}{r} x + 2y = 18 \\ x + 2(10) = 18 \\ x + 20 = 18 \\ -20 \quad \quad -20 \\ \hline \end{array}$$

$$x = -2$$

$$\text{solution: } (-2, 10)$$

$$\begin{array}{r} 4) \quad -4x + 10y = 24 \\ + \quad -2x - 10y = -18 \\ \hline \end{array}$$

$$-6x = 6$$

$$x = -1$$

$$\begin{array}{r} -4(-1) + 10y = 24 \\ 4 + 10y = 24 \\ 10y = 20 \end{array}$$

$$y = 2$$

$$\text{solution: } (-1, 2)$$