

Lesson 3.6 • Linear Systems

Name _____ Period _____ Date _____

1. Identify the point of intersection listed below each system of linear equations that is the solution of that system.

a. $\begin{cases} 2x + 5y = 10 \\ x - 3y = -6 \end{cases}$
(5, 0); (0, 2); (3, 1)

b. $\begin{cases} 4x + 3y = 4 \\ 3x - 2y = -14 \end{cases}$
(-2, 4); $(0, \frac{4}{3})$; (0, 7)

c. $\begin{cases} 6x - 5y = 0 \\ x - y = -1 \end{cases}$
(0, 0); (-5, -6); (5, 6)

2. Write a system of linear equations that has each ordered pair as its solution.

a. (5, 4)

b. (-3, 8)

c. (3, 10.5)

3. Write an equation for each line described.

a. Perpendicular to $y = 2x - 3$ and passing through the point (5, -4)

b. Perpendicular to $y = 1.5 + 0.25x$ and passing through the point (5, -2)

4. Solve.

a. $8 - 3(x - 2) = 5 + 6x$

b. $3.8t - 16.2 = 12 + 2.8(t + 3)$

5. Use substitution to find the point (x, y) where each pair of lines intersect. Use a graph or table to verify your answer.

a. $\begin{cases} y = 3 - 2x \\ y = 5 + 2x \end{cases}$

b. $\begin{cases} y = 0.45x - 2 \\ y = -0.45x + 2 \end{cases}$

c. $\begin{cases} y = 9 + 4(x - 3) \\ y = 15 - 2x \end{cases}$

Lesson 3.7 • Substitution and Elimination

Name _____ Period _____ Date _____

1. Solve each equation for the specified variable.

a. $r - s = 20$, for s

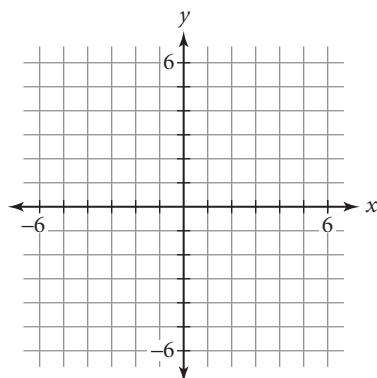
b. $5x - 8y = -10$, for x

c. $0.2m - 0.5n = 1$, for n

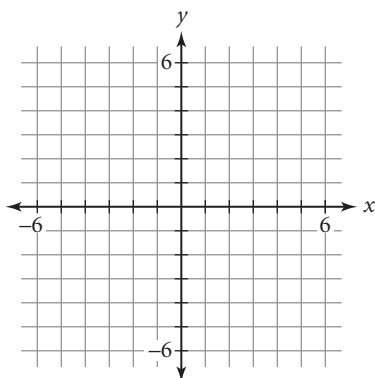
d. $250x + 400y = -50$, for y

2. Graph each system and find an approximate solution. Then choose a method and find the exact solution. List each solution as an ordered pair.

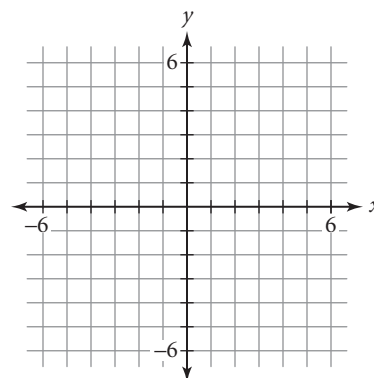
a.
$$\begin{cases} x + y = 1 \\ 2x - 2y = 1 \end{cases}$$



b.
$$\begin{cases} 3x - 2y = 6 \\ -2x + 3y = 0 \end{cases}$$



c.
$$\begin{cases} 5x + 4y = 16 \\ 4x - 3y = 12 \end{cases}$$



3. Solve each system of equations.

a.
$$\begin{cases} 3x - 4y = 8 \\ y = x - 1 \end{cases}$$

b.
$$\begin{cases} 5x - 8y = 8 \\ -10x + 4y = -7 \end{cases}$$

c.
$$\begin{cases} 0.5x + 1.5y = 5 \\ x + y = -10 \end{cases}$$

4. Classify each system as consistent or inconsistent. If a system is consistent, classify it as dependent or independent.

a.
$$\begin{cases} -3x + 2y = 8 \\ y = 4 - x \end{cases}$$

b.
$$\begin{cases} 6m + 3n = 15 \\ n = -2m + 5 \end{cases}$$

c.
$$\begin{cases} k = 2j + 9 \\ 4j - 2k = 3 \end{cases}$$