

Solve by graphing. Be sure to check your solution.

1. $y = 2x + 9$

$y = -x + 6$

slope: _____

y-intercept: _____

2. $y = -x - 4$

$y = \frac{3}{5}x + 4$

slope: _____

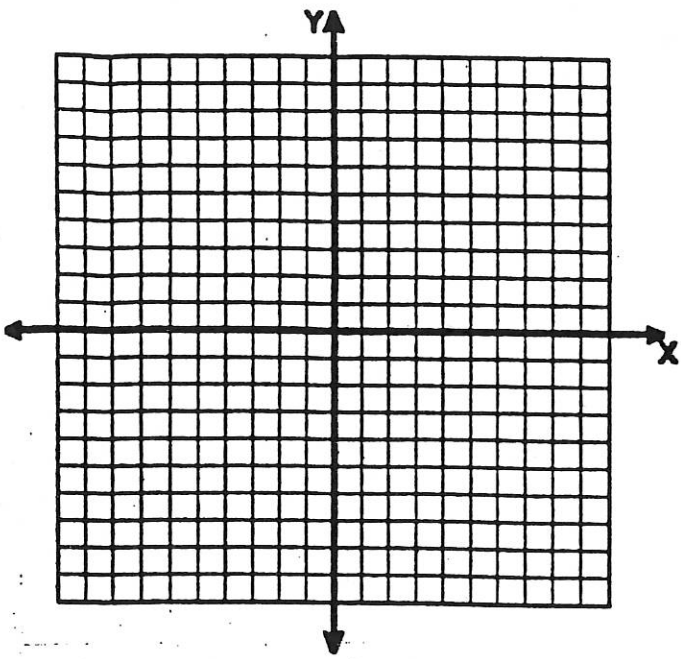
y-intercept: _____

3. $y = 2x + 5$

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

slope: _____

y-intercept: _____

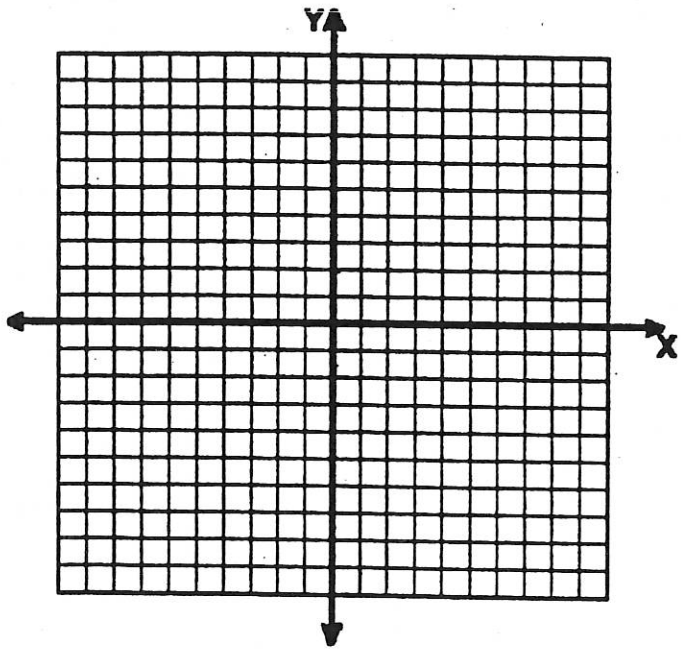


4. $y = x - 5$

$y = -2x + 4$

slope: _____

y-intercept: _____

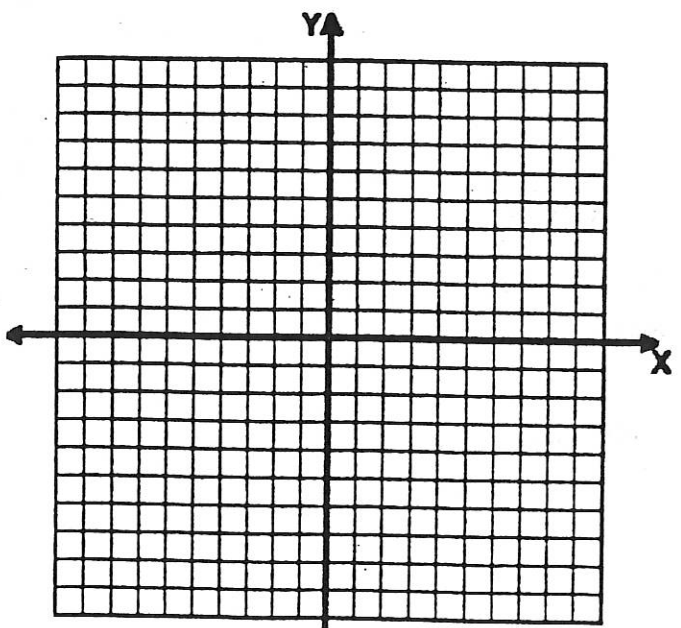


5. $y = \frac{2}{3}x - 3$

$y = -2x + 5$

slope: _____

y-intercept: _____



6. $y = 2x + 6$

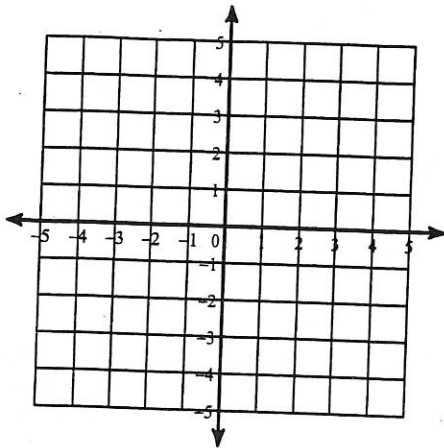
$y = -2x - 2$

slope: _____

y-intercept: _____

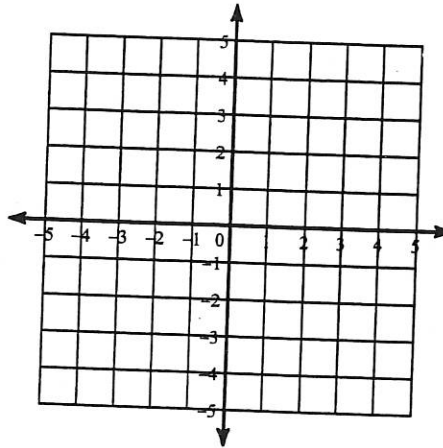
$$9) y = -\frac{3}{2}x + 4$$

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



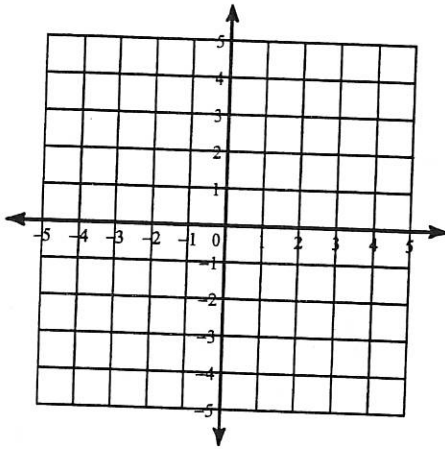
$$10) y = 2x - 4$$

$$y = \frac{1}{4}x + 3$$



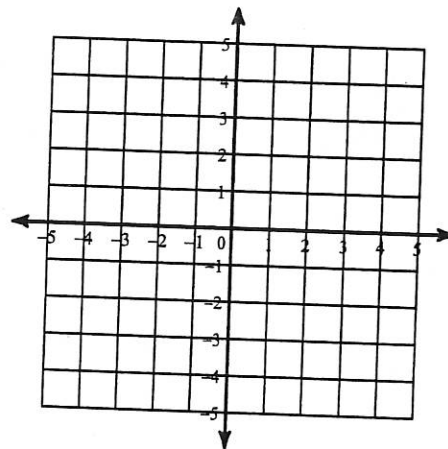
$$11) 5x + y = 4$$

$$x - y = 2$$



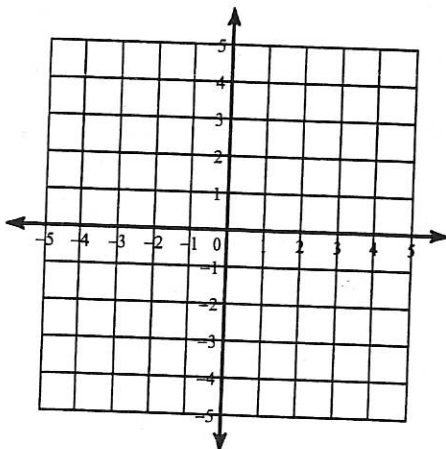
$$12) x - 4y = -4$$

$$5x - 4y = 12$$



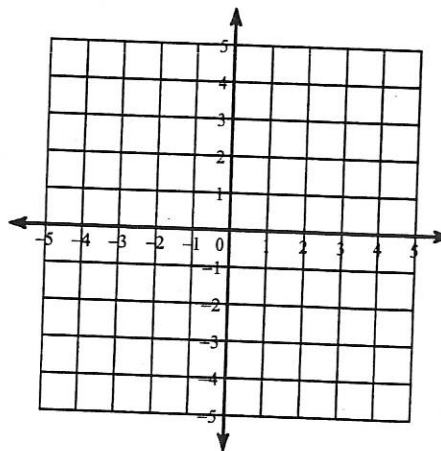
$$13) x + y = 3$$

$$8x + y = -4$$

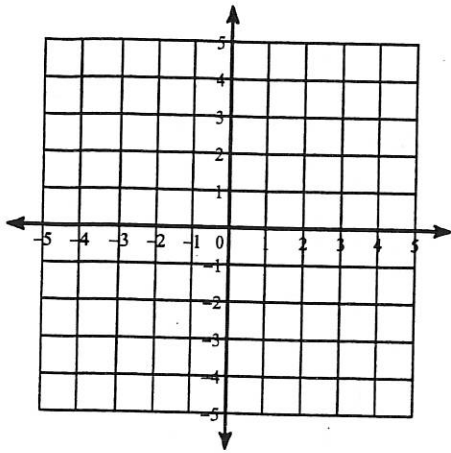


$$14) x - y = 2$$

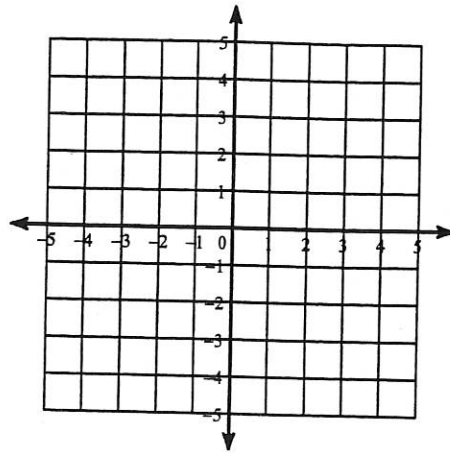
$$x = -2$$



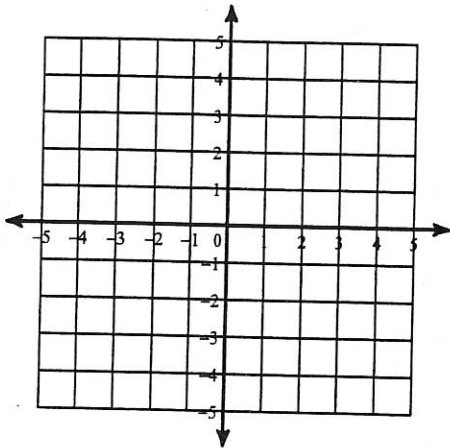
15) $2x + y = 1$
 $2x - y = 3$



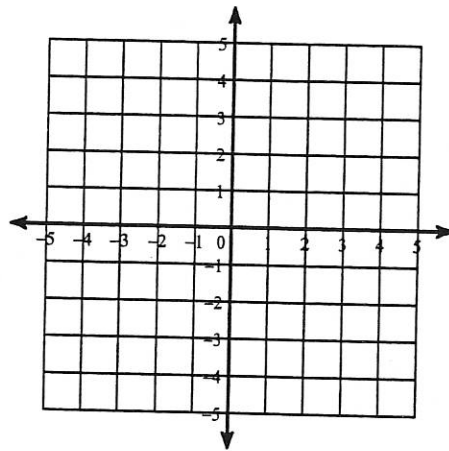
16) $x - 3y = -6$
 $2x - y = 3$



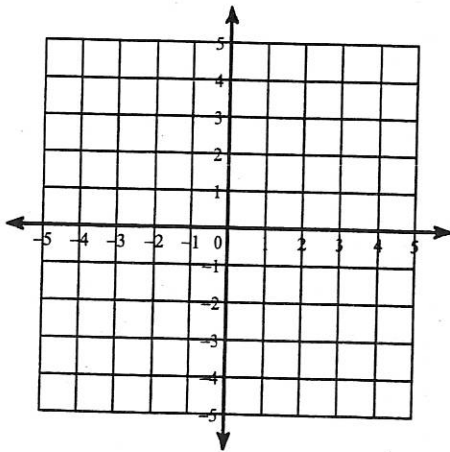
17) $x + 3y = -12$
 $5x - 3y = -6$



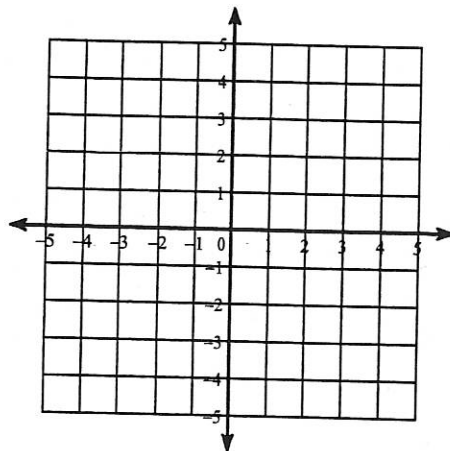
18) $2x + y = -4$
 $x + 4y = 12$



19) $x + 2y = 8$
 $x - 2y = -4$



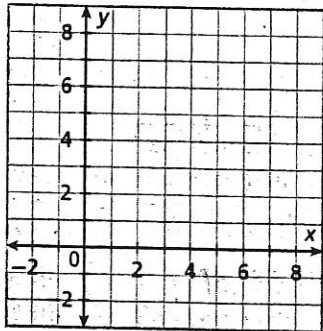
20) $2x + 3y = -12$
 $5x - 3y = -9$



PRACTICE

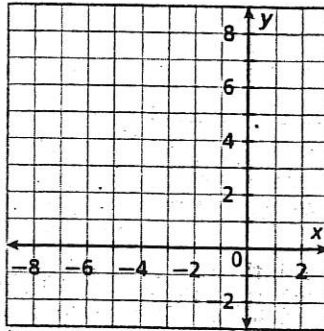
Solve each system by graphing. Check your answer.

1.
$$\begin{cases} x - y = -2 \\ 2x + y = 8 \end{cases}$$



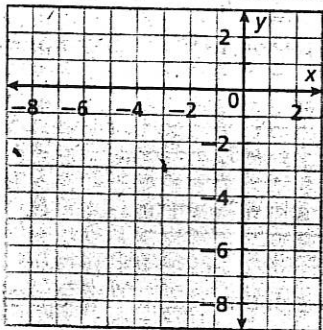
Solution: _____

2.
$$\begin{cases} x - y = -5 \\ 2x + 4y = -4 \end{cases}$$



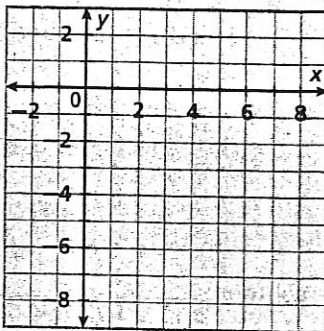
Solution: _____

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



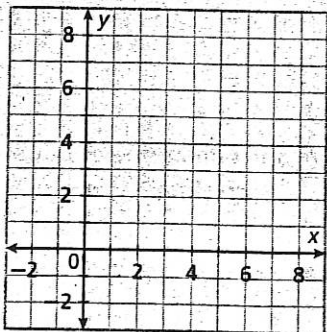
Solution: _____

4.
$$\begin{cases} 2x + y = 1 \\ y = -3 \end{cases}$$



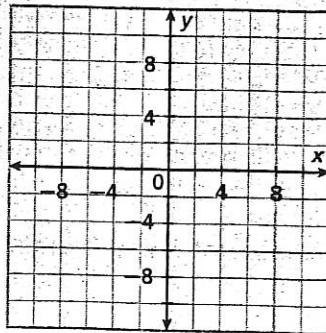
Solution: _____

5.
$$\begin{cases} x + 2y = 6 \\ x = 2 \end{cases}$$



Solution: _____

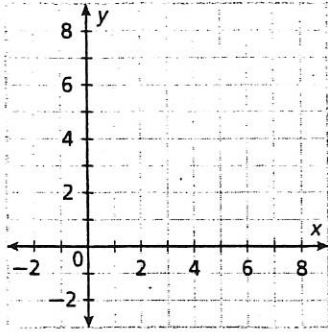
6.
$$\begin{cases} 2x - y = -6 \\ 4x - 2y = -12 \end{cases}$$



Solution: _____

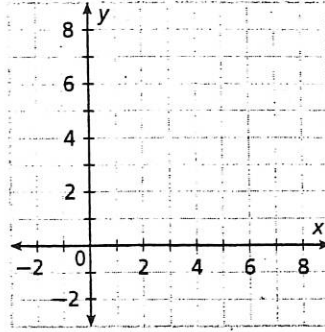
Estimate the solution for the linear system by graphing. Check your answer.

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



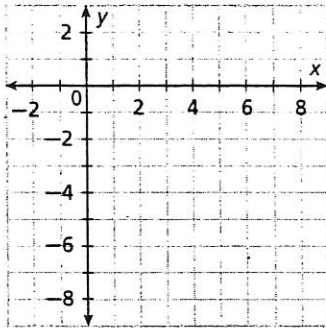
Approximate solution: _____

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



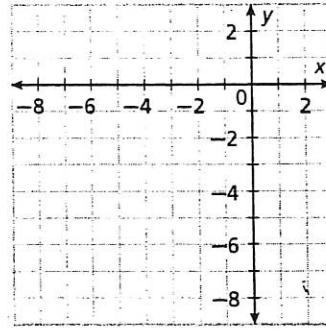
Approximate solution: _____

9. $\begin{cases} 3x - 2y = 12 \\ 2x - 6y = 9 \end{cases}$



Approximate solution: _____

10. $\begin{cases} x + 2y = -6 \\ 2x + y = -4 \end{cases}$



Approximate solution: _____

5.1

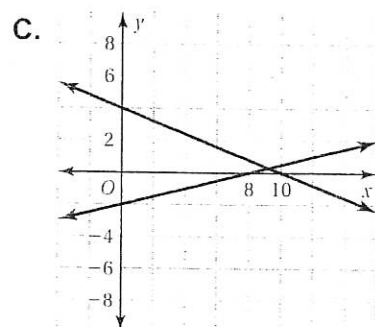
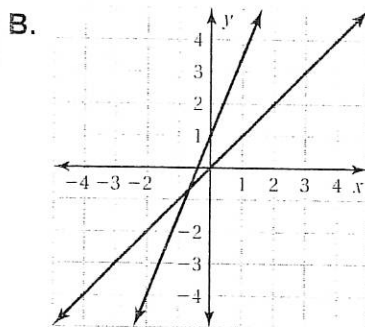
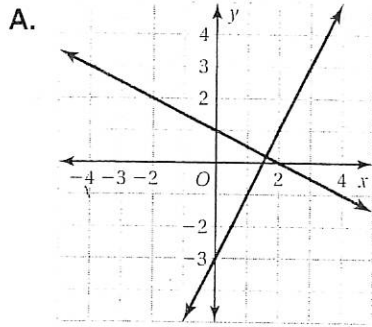
Practice A

Match the system of linear equations with the corresponding graph. Use the graph to estimate the solution. Check your solution.

1. $y = 2.5x + 1$
 $y = x$

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

3. $y = \frac{1}{4}x - 2$
 $y = -\frac{2}{5}x + 4$



Solve the system of linear equations by graphing.

4. $y = x + 4$
 $y = -x$

5. $y = x - 7$
 $y = -4x + 3$

6. $y = -x - 1$
 $y = -3x + 9$

7. The cost C (in dollars) for beads to make bracelets is $C = 4x + 180$, where x is the number of bracelets. Each bracelet sells for \$34.
- Write an equation for the revenue R in terms of the number of bracelets.
 - How many bracelets need to be sold for the business to break even?
8. You have a total of 21 pens and pencils on your desk. You have 3 more pens than pencils.
- Write a system of linear equations that represents this situation.
 - How many of each do you have?

Practice 7-1

Solving Systems by Graphing

Solve by graphing. Write *no solution* or *infinitely many solutions* where appropriate.

- | | | | |
|---|--|---|---|
| 1. $y = 3x - 1$
$y = -2x + 4$ | 2. $y = x - 1$
$y = -x + 7$ | 3. $y = \frac{3}{4}x + 2$
$\frac{3}{4}x - y = 4$ | 4. $y = 4x + 7$
$y = -3x$ |
| 5. $y = x - 3$
$y = \frac{1}{7}x + 3$ | 6. $y = -3x - 4$
$3x + y = -4$ | 7. $y = -x - 3$
$y = -2x - 8$ | 8. $y = -x + 2$
$3x + 3y = 12$ |
| 9. $y = x$
$y = 3x + 2$ | 10. $y = 4x - 3$
$y = -3x - 3$ | 11. $y = \frac{5}{3}x - 4$
$y = 2x - 6$ | 12. $y = 3x + 2$
$2x + y = -8$ |
| 13. $x = y + 4$
$y = x + 4$ | 14. $x + y = 2$
$y = -2x - 1$ | 15. $2x - y = 3$
$y = x + 4$ | 16. $3x - 6y = 12$
$2x - 4y = 8$ |
| 17. $x - y = 1$
$y = \frac{3}{4}x + 1$ | 18. $y = x$
$x = 2y + 2$ | 19. $3x - y = 9$
$y = x + 1$ | 20. $2x + y = 0$
$y = 2x - 4$ |
| 21. $y = 2x - 6$
$x + y = 9$ | 22. $y = -x$
$y = 3x + 12$ | 23. $4x + y = 6$
$y = -4x - 1$ | 24. $y = 4x$
$y = -3x$ |
| 25. $y = x$
$2x + y = \frac{3}{2}$ | 26. $3x + y = 6$
$2x - y = \frac{3}{2}$ | 27. $x + 4y = -\frac{1}{2}$
$-2x - 3y = 1$ | 28. $x - y = -\frac{3}{2}$
$-2x + 5y = -4.5$ |

Solve each system by using a graphing calculator. Write *no solution* or *infinitely many solutions* where appropriate.

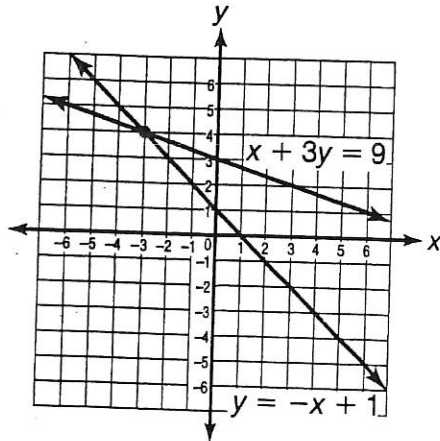
- | | | |
|---|--|---|
| 29. $y = x + 6$
$y = 2x - 7$ | 30. $y = \frac{7}{2}x - 6$
$y = 3x - 2$ | 31. $y = 2x - 20$
$y = -x + 34$ |
| 32. $y = \frac{2}{3}x + 4$
$2x - 3y = 3$ | 33. $y = -x - 5$
$y = 3x - 105$ | 34. $x + y = -10$
$2x + 3y = -30$ |
| 35. $3x - 4y = 0$
$2x + y = 110$ | 36. $y = \frac{1}{7}x + 10$
$x - 2y = 0$ | 37. $2x + y = 6$
$3y = -6x + 9$ |
| 38. $y = \frac{5}{6}x + 12$
$y = \frac{4}{3}x - 6$ | 39. $2x - y = 8$
$3x - 2y = 0$ | 40. $x + 2y = 2$
$3x + 4y = 22$ |
| 41. $y = 2x + 0.75$
$y = -4x - 8.25$ | 42. $1.25x + 3.25y = -5.75$
$0.5x - 1.5y = 0.5$ | 43. $x = -2y - 3.5$
$-5x + 3y = -15$ |



Lesson Practice

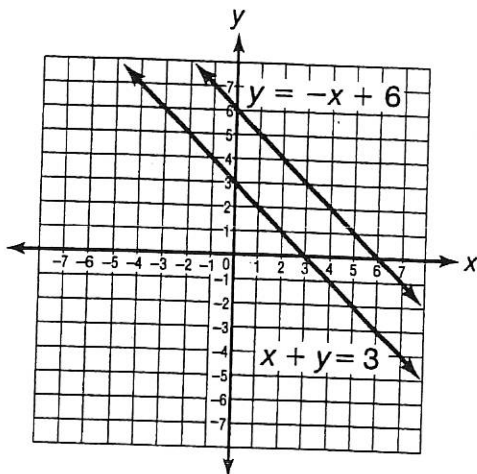
Choose the correct answer.

1. Which is the solution for the system of linear equations graphed below?



- A. $(-4, 3)$ C. $(0, 3)$
B. $(0, 1)$ D. $(-3, 4)$

2. Which best describes the solution for the system of linear equations graphed below?

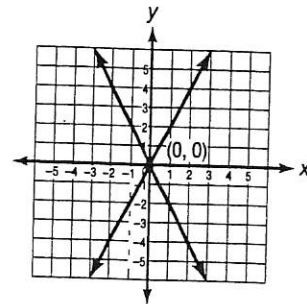


- A. $(3, 0)$ only
B. $(6, 0)$ only
C. no solution
D. infinitely many solutions

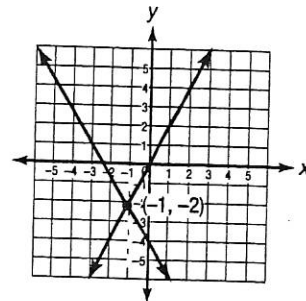
3. Which shows the solution for the following system of equations?

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

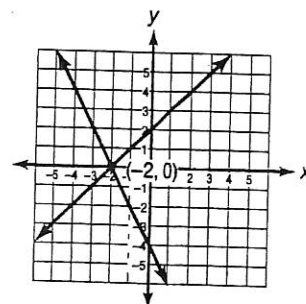
A.



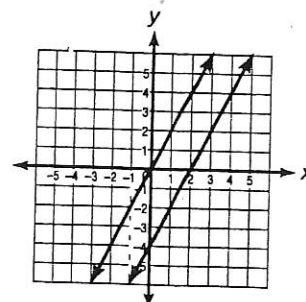
B.



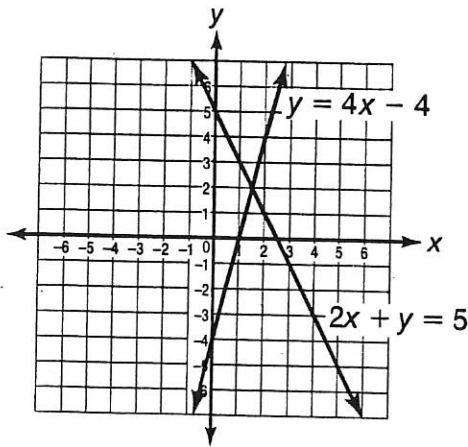
C.



D.



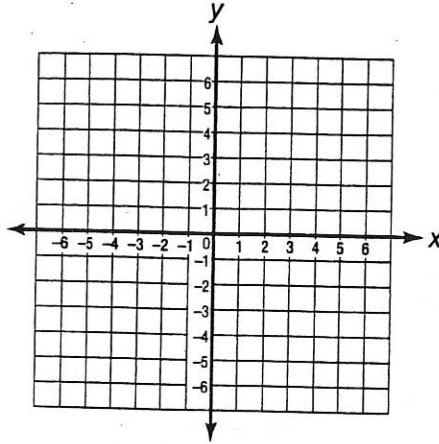
4. Which is the best estimate of the solution for the system of linear equations graphed below?



- A. (0.5, 2)
- B. (1.5, 2)
- C. (2, 1.5)
- D. (2.5, 1.5)

5. Solve this system of equations by graphing.

$$\begin{aligned} -2x + 5y &= 10 \\ y &= x + 5 \end{aligned}$$

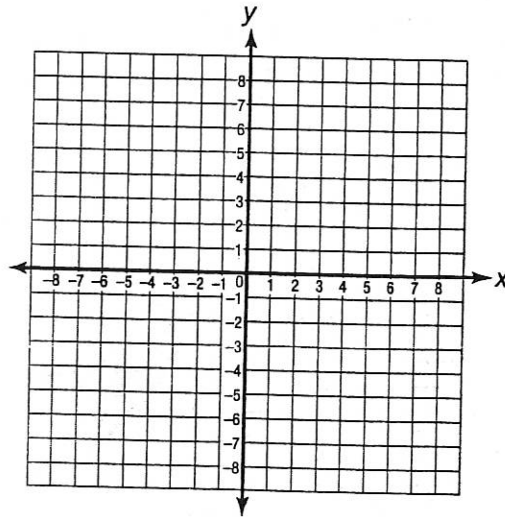


- A. (-5, 0)
- B. (5, 0)
- C. no solution
- D. infinitely many solutions

6. Consider the system of linear equations below.

$$\begin{aligned} 3x + y &= -4 \\ -5x + y &= 8 \end{aligned}$$

- A. Graph the system of equations on the coordinate plane. Label each line on your graph and show any work you do.
- B. Use your graph from Part A to estimate the solution for the system of equations. Explain how you determined your estimate.



NAME: _____

Expressions and Equations

Set 1: Solving 2-by-2 Systems by Graphing

You can find the solution to a system of linear equations by graphing each equation in the same coordinate plane.

Graph each of the following linear equations on the same graph.

$$y = 3x + 2$$

$$y = x + 4$$

2. Do the lines intersect? If so, find the point at which the two lines intersect.
3. What does this point of intersection tell you about the two equations?
4. How can you double-check your answer to problem 3?

5. Graph the system of linear equations on a new graph.

$$\begin{cases} y = -2x - 4 \\ y = -x - 7 \end{cases}$$

6. Using this graph, what is the solution to the linear system?