

Name: _____

Date: _____

1. Consider the following system of equations:

$$y = 2x + 2$$

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

The graph of these equations consists of two lines that:

- A. intersect at two points.
 B. intersect at exactly one point.
 C. do not intersect.
 D. intersect in an infinite number of points.
2. The coordinate (3, 5) is *not* the solution to which system of equations?

A. $y = 2x - 1$ $y = x + 2$	B. $y = x + 4$ $2y = 3x - 6$
C. $y = 3$ $y = x + 2$	D. $y = 8 - x$ $3y - 9 = 2x$

3. Find the point of intersection of the lines:

$$y = 4x + 1 \text{ and } y = -2x + 4$$

- A. (2, 9) B. (1, 2) C. $(\frac{1}{2}, 3)$ D. $(\frac{1}{4}, 2)$

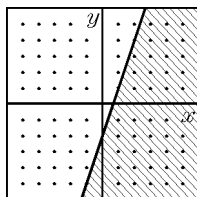
4. Find the point of intersection of the lines:

$$y = 6x - 4 \text{ and } y = -3x - 1$$

- A. $(\frac{1}{6}, -3)$ B. $(\frac{1}{3}, -2)$
 C. $(-\frac{1}{3}, 0)$ D. $(-\frac{1}{3}, -6)$

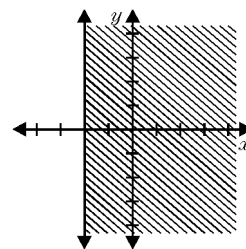
5. What is the inequality represented by the graph?

- A. $y > 3x - 2$ B. $y < 3x - 2$
 C. $y \geq 3x - 2$ D. $y \leq 3x - 2$



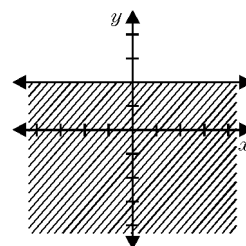
6. The graph is represented by which inequality?

- A. $x \leq 2$ B. $y \leq 2$
 C. $x \leq -2$ D. $x \geq -2$



7. The graph is represented by which inequality?

- A. $x \leq 2$ B. $y \leq 2$
 C. $y \geq -2$ D. $y \geq 2$

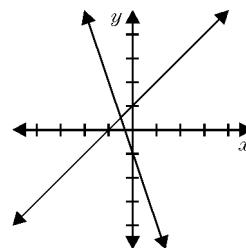


8. Given the graphs of $y = -3x - 1$ and $y = x + 1$, determine which ordered pair is a solution to:

$$y < -3x - 1$$

$$y > x + 1$$

- A. (-2, -1) B. (0, 3)
 C. (3, 1) D. (-4, -1)



9. Which point does not lie in the solution of the following system of inequalities:

$$y < -x + 4$$

$$y \geq 2x + 1$$

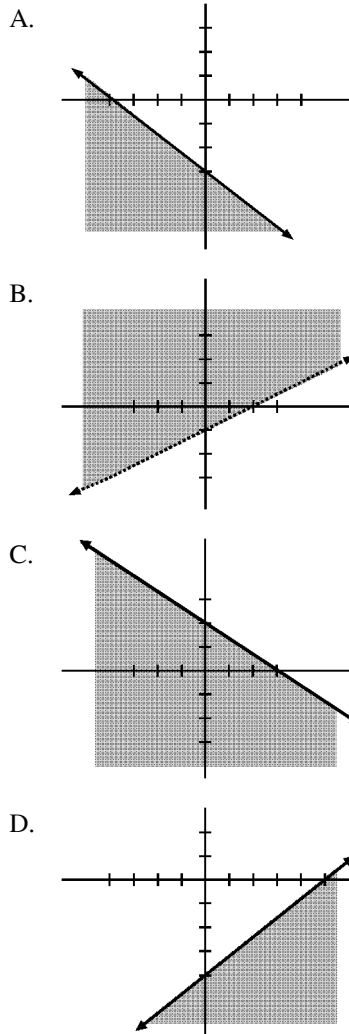
- A. (0, 0) B. (5, 2) C. (-3, 3) D. (1, -6)

10. Which point does *not* belong to the solution set of the given system?

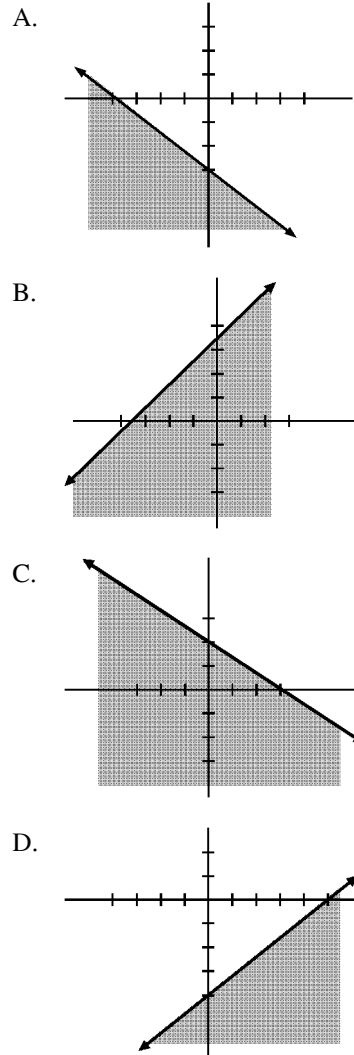
$$\begin{aligned} 3x - y &> 6 \\ 4x + y &\geq -4 \end{aligned}$$

- A. (1, -5) B. (2, -2) C. (3, -4) D. (4, 6)

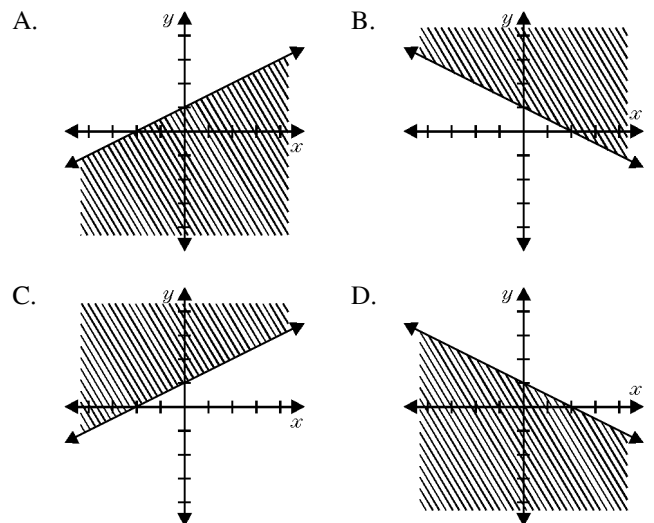
11. Which graph represents the solution of the inequality $y \leq -\frac{2}{3}x + 2$?



12. Which graph represents the solution of the inequality $y \leq -\frac{3}{4}x - 3$?



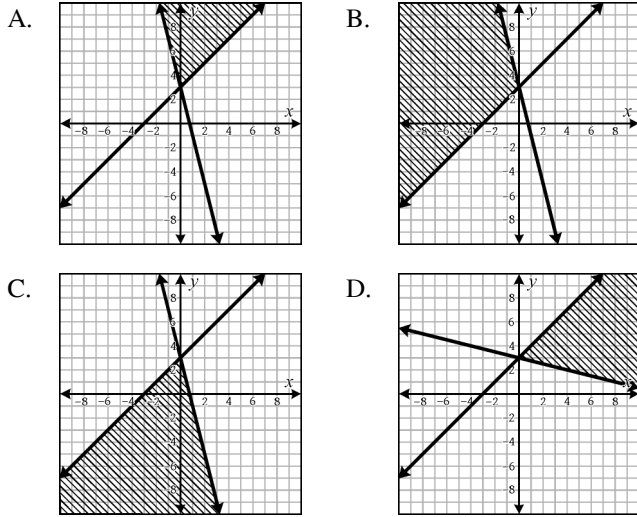
13. Which graph represents $f(x) \geq -\frac{1}{2}x + 1$?



14. Which of the following is the graph of the solution set of the system?

$$y \geq x + 3$$

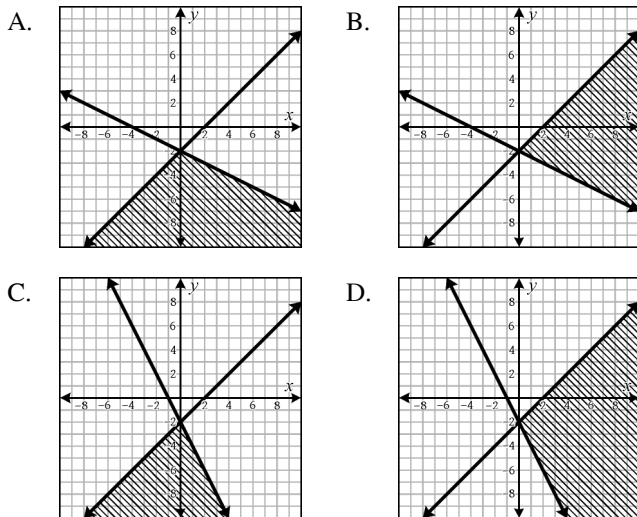
$$y \geq -4x + 3$$



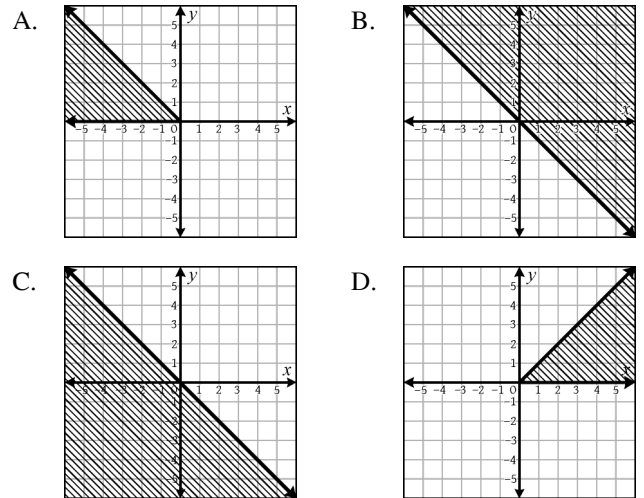
15. Which of the following is the graph of the solution set of the system?

$$y \leq x - 2$$

$$y \leq -2x - 2$$

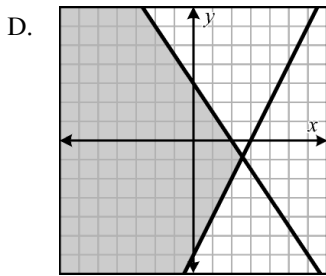
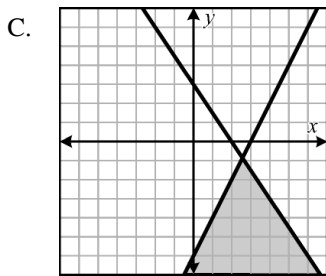
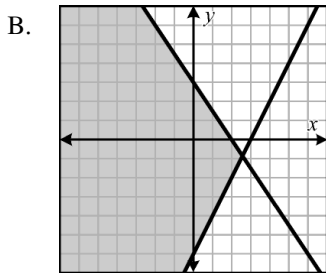
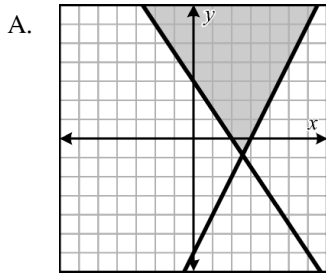


16. Which of the following is the graph of $y \geq 0$ and $y \leq -x$?



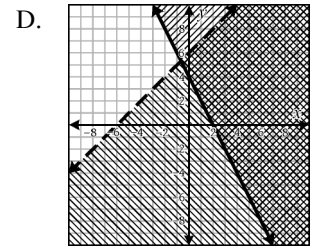
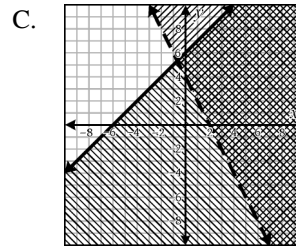
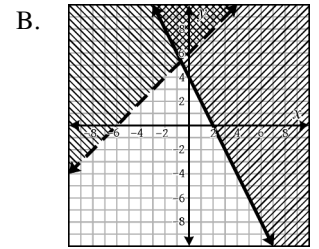
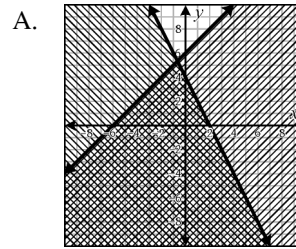
17. Which graph shows the solution to the following system of inequalities?

$$\begin{aligned} 2y + 3x &\leq 6 \\ 2x - y &\geq 6 \end{aligned}$$



18. Which of the following is the graph of the solution set of the system?

$$\begin{aligned} y - x &> 6 \\ 2x + y &\geq 4 \end{aligned}$$



19. Graph the system of inequalities.

$$\begin{aligned} y &\leq -2 \\ y &\geq x - 3 \end{aligned}$$

20. Graph the system of inequalities.

$$\begin{aligned} x + 3y &> 9 \\ x - y &\leq 3 \end{aligned}$$

21. Graph the system of inequalities.

$$\begin{aligned} 3y + 2x &\geq 6 \\ 2x - y &\leq 7 \end{aligned}$$

22. A landscape architect designs a new park using a computer program. A portion of the park consists of regions of grass and water with a thin wall between them. The computer program specifies that the area in the region described by

$$3x + y > 6$$

will be water; the area in the region described by

$$3x + y < 6$$

will be grass; and the line

$$3x + y = 6$$

will be the wall. Draw this portion of the park and label the wall and the areas of grass and water.