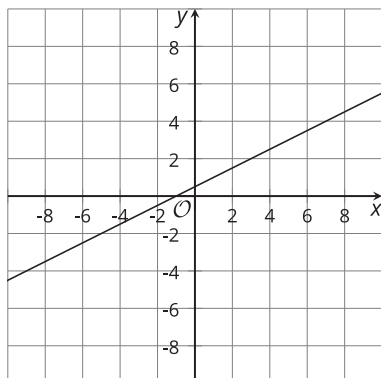


Lesson 21 Practice Problems

1. Here is a graph of the equation $2y - x = 1$.



a. Are the points $(0, \frac{1}{2})$ and $(-7, -3)$ solutions to the equation? Explain or show how you know.

b. Check if each of these points is a solution to the inequality $2y - x > 1$:

$$(0, 2) \quad (8, \frac{1}{2}) \quad (-6, 3) \quad (-7, -3)$$

c. Shade the region that represents the solution set to the inequality $2y - x > 1$.

d. Are the points on the line included in the solution set? Explain how you know.

2. Select **all** coordinate pairs that are solutions to the inequality $5x + 9y < 45$.

- A. $(0, 0)$
- B. $(5, 0)$
- C. $(9, 0)$
- D. $(0, 5)$
- E. $(0, 9)$
- F. $(5, 9)$
- G. $(-5, -9)$

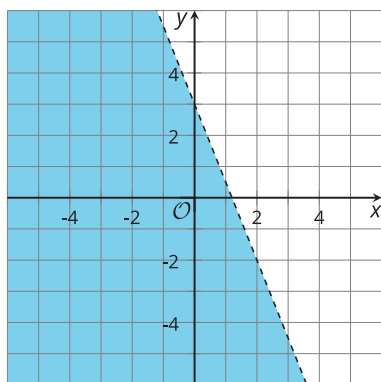
3. Consider the linear equation $2y - 3x = 5$.

a. The pair $(-1, 1)$ is a solution to the equation. Find another (x, y) pair that is a solution to the equation.

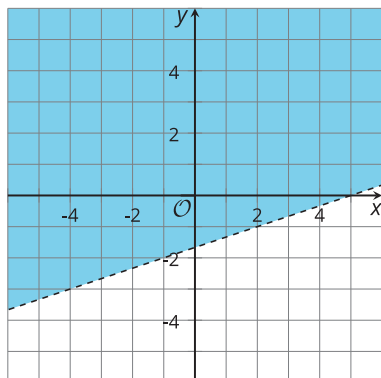
b. Are $(-1, 1)$ and $(4, 1)$ solutions to the inequality $2y - 3x < 5$? Explain how you know.

c. Explain how to use the answers to the previous questions to graph the solution set to the inequality $2y - 3x < 5$.

4. The boundary line on the graph represents the equation $5x + 2y = 6$. Write an inequality that is represented by the graph.



5. Choose the inequality whose solution set is represented by this graph.



- A. $x - 3y < 5$
- B. $x - 3y \leq 5$
- C. $x - 3y > 5$
- D. $x - 3y \geq 5$

6. Solve each system of equations without graphing.

a.
$$\begin{cases} 4d + 7e = 68 \\ -4d - 6e = -72 \end{cases}$$

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

(From Unit 2, Lesson 14.)

7. Mai and Tyler are selling items to earn money for their elementary school. The school earns w dollars for every wreath sold and p dollars for every potted plant sold. Mai sells 14 wreaths and 3 potted plants and the school earns \$70.50. Tyler sells 10 wreaths and 7 potted plants and the school earns \$62.50.

This situation is represented by this system of equations: $\begin{cases} 14w + 3p = 70.50 \\ 10w + 7p = 62.50 \end{cases}$

Explain why it makes sense in this situation that the solution of this system is also a solution to $4w + (-4p) = 8.00$.

(From Unit 2, Lesson 15.)

8. Elena is planning to go camping for the weekend and has already spent \$40 on supplies. She goes to the store and buys more supplies.

Which inequality represents d , the total amount in dollars that Elena spends on supplies?

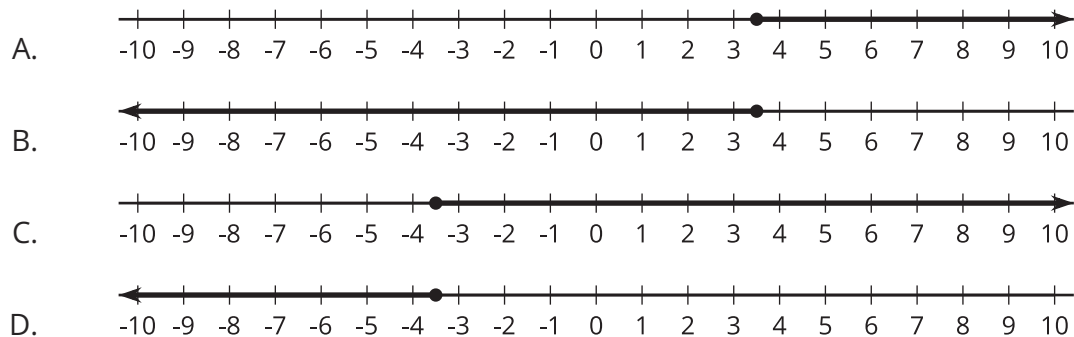
- A. $d > 40$
- B. $d \geq 40$
- C. $d < 40$
- D. $d \leq 40$

(From Unit 2, Lesson 18.)

9. Solve this inequality: $\frac{x - 4}{3} \geq \frac{x + 3}{2}$

(From Unit 2, Lesson 19.)

10. Which graph represents the solution to $\frac{4x - 8}{3} \leq 2x - 5$?



(From Unit 2, Lesson 19.)

11. Solve $-x < 3$. Explain how to find the solution set.

(From Unit 2, Lesson 20.)