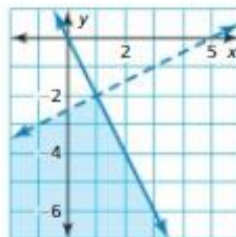


# 5.7 Exercises

Dynamic Solutions available at [BigIdeasMath.com](http://BigIdeasMath.com)

## Vocabulary and Core Concept Check

- VOCABULARY** How can you verify that an ordered pair is a solution of a system of linear inequalities?
- WHICH ONE DOESN'T BELONG?** Use the graph shown. Which of the ordered pairs does *not* belong with the other three? Explain your reasoning.



$(1, -2)$

$(0, -4)$

$(-1, -6)$

$(2, -4)$

## Monitoring Progress and Modeling with Mathematics

In Exercises 3–6, tell whether the ordered pair is a solution of the system of linear inequalities.

- $(-4, 3)$
- $(-3, -1)$
- $(-2, 5)$
- $(1, 1)$



In Exercises 7–10, tell whether the ordered pair is a solution of the system of linear inequalities. (See Example 1.)

- $(-5, 2)$ ;  $y < 4$   
 $y > x + 3$
- $(1, -1)$ ;  $y > -2$   
 $y > x - 5$
- $(0, 0)$ ;  $y \leq x + 7$   
 $y \geq 2x + 3$
- $(4, -3)$ ;  $y \leq -x + 1$   
 $y \leq 5x - 2$

In Exercises 11–20, graph the system of linear inequalities. (See Examples 2 and 3.)

- $y > -3$   
 $y \geq 5x$
- $y < -1$   
 $x > 4$
- $y < -2$   
 $y > 2$
- $y < x - 1$   
 $y \geq x + 1$
- $y \geq -5$   
 $y - 1 < 3x$
- $x + y > 4$   
 $y \geq \frac{3}{2}x - 9$
- $x + y > 1$   
 $-x - y < -3$
- $2x + y \leq 5$   
 $y + 2 \geq -2x$

- $x < 4$   
 $y > 1$   
 $y \geq -x + 1$
- $x + y \leq 10$   
 $x - y \geq 2$   
 $y > 2$

In Exercises 21–26, write a system of linear inequalities represented by the graph. (See Examples 4 and 5.)

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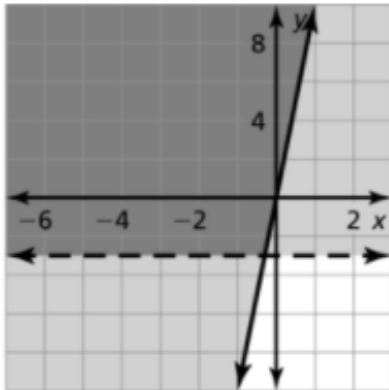
3. no

4. yes

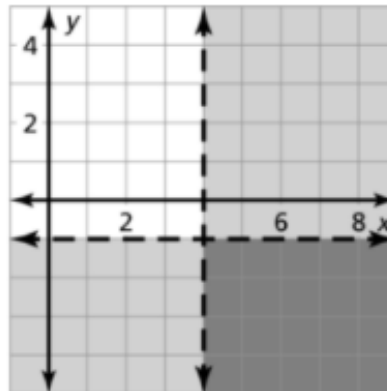
5. no

6. no

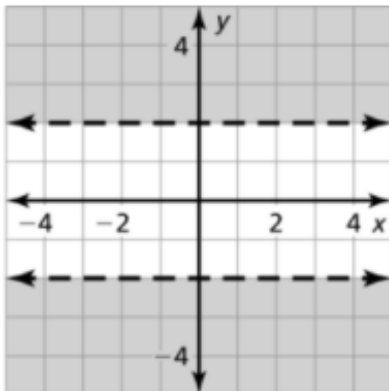
11.



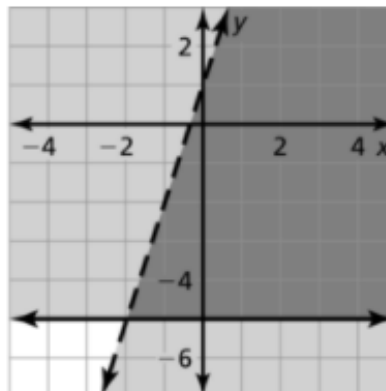
12.



13.



15.



21.  $x \geq -1$  and  $y < 3$

22.  $x > 2$  and  $x < 4$