

## **6.7: Graph Linear Inequalities in Two Variables**

**Goals:** \*Graph a linear inequality on a coordinate plane

- Decide if the line is solid or dotted
  - Decide which half of the plane to shade
  - Identify solutions to a linear inequality
- 

**Linear inequality:**

**Solution:**

**Ex:** Which of the following are solutions to  $x - 3y \leq 6$  ?

- a. (0, 0)                  b. (6, -1)                  c. (10, 3)                  d. (-1, 2)

**Ex:** Tell whether the given ordered pair is a solution to:  $-x + 2y < 8$

- a. (0, 0)                  b. (0, 4)                  c. (3, 5)                  d. (-2, 3)
- 

**To Graph:**

**1.**

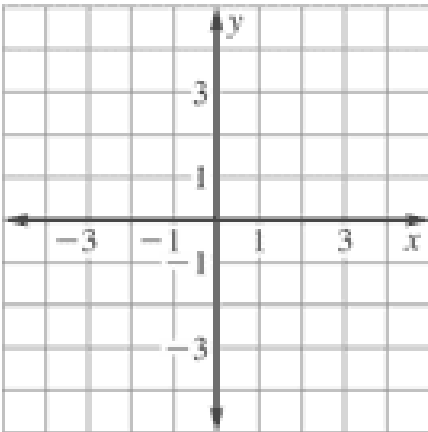
\*

\*

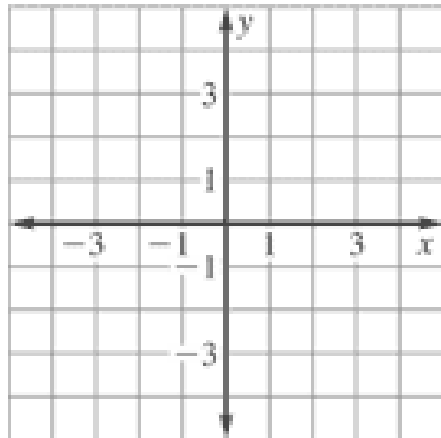
**2.**

**Graph the following linear inequalities:**

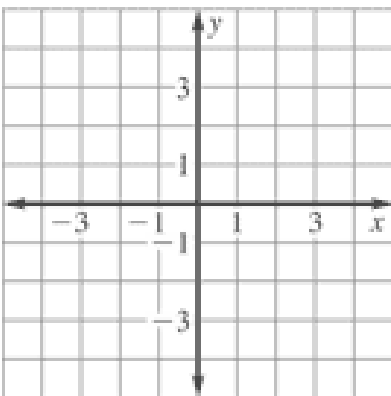
**Ex:**  $y > 4x - 3$



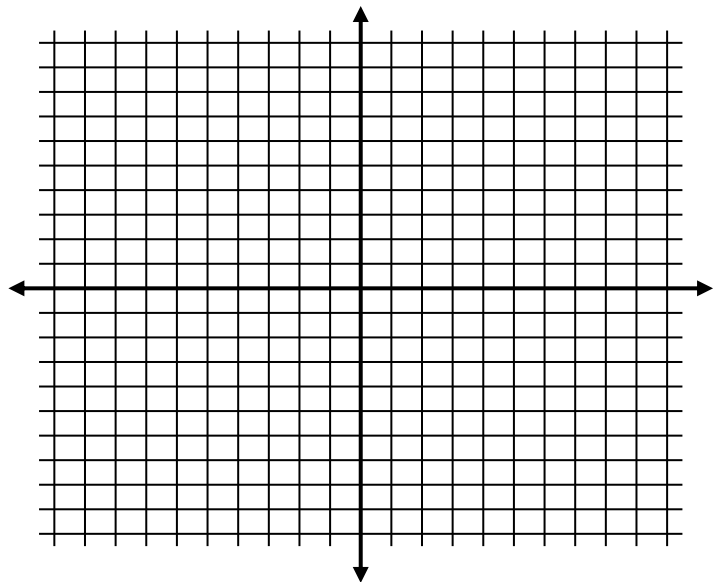
**Ex:**  $y \geq 3x + 1$



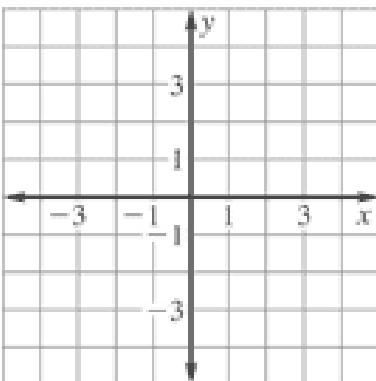
**Ex:**  $x + 2y \leq 0$



**Ex:**  $x + 4y < -8$

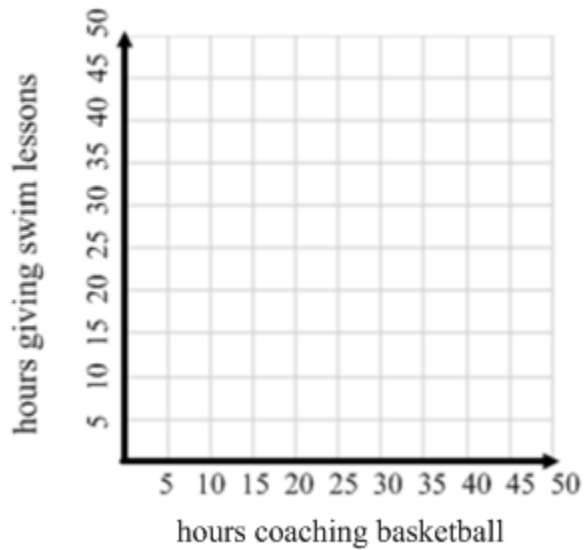


**Ex:**  $x - y \geq -1$



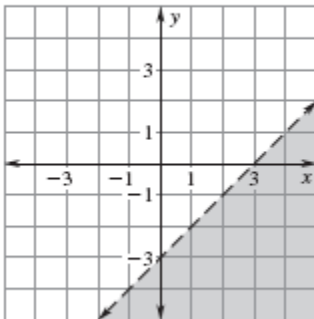
**Ex:** You have 2 summer jobs at a youth center. You earn \$8 per hour giving basketball lessons and \$10 giving swimming lessons. Let  $x$  represent the number of hours you spend coaching basketball and  $y$  represent the amount of time you spent giving swimming lessons. Your goal is to earn at least \$200 per week.

- Write an inequality to represent the situation
- Graph the inequality.
- Give two possible solutions so you would make the amount you want.



**Write the inequality of the graph shown.**

**Ex:**



**Ex:**

