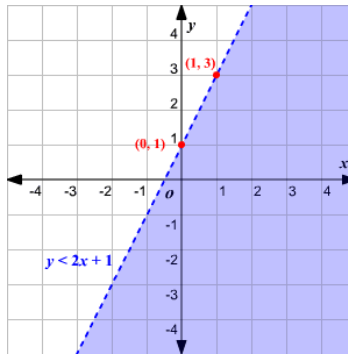




**Learning Goals:**  
Write an inequality in two variables.  
Graph an inequality in two variables.

Notes

A linear inequality in 2 variables has \_\_\_\_\_.  
The solutions are \_\_\_\_\_.  
The ordered pairs are located in the \_\_\_\_\_ area of the graph and on the \_\_\_\_\_.



| Inequality Symbol | Type of Boundary Line | Shaded Area |
|-------------------|-----------------------|-------------|
| $\leq$            |                       |             |
| $\geq$            |                       |             |
| $<$               |                       |             |
| $>$               |                       |             |

Identifying Solutions of a Linear Inequality

|  |   |
|--|---|
| <p><b>Steps:</b></p> <ul style="list-style-type: none"> <li>▪ Replace <math>x</math> and <math>y</math> with their respective values.</li> <li>▪ Simplify.</li> <li>▪ If the inequality is TRUE, then the ordered pair is a SOLUTION.</li> <li>▪ If the inequality is FALSE, then the ordered pair is NOT a solution.</li> </ul> | <p><b>Is the ordered pair a solution of <math>y &gt; x - 3</math>?</b></p> <ol style="list-style-type: none"> <li>1. <math>(1, 2)</math></li> <li>2. <math>(-3, -7)</math></li> </ol> |
|--|---|

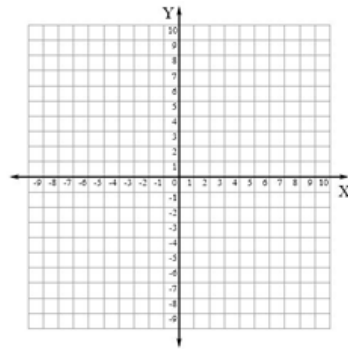
## Graphing a Linear Inequality in One Variable

### Steps:

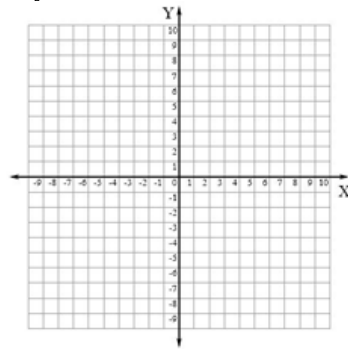
- Write the inequality in slope-intercept form.
- Draw the boundary line. Solid or dashed?
- Shade above or below the line.

### Graph each inequality in one variable.

3.  $x > -1$



4.  $y \geq 2$



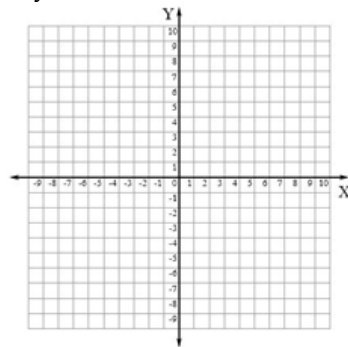
## Graphing a Linear Inequality in Two Variables

### Steps:

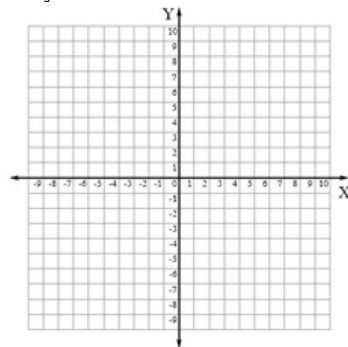
- Write the inequality in slope-intercept form.
- Draw the boundary line. Solid or dashed?
- Shade above or below the line.
- If you are not sure what side to shade, choose a **test point** and see if it a solution for the inequality.*

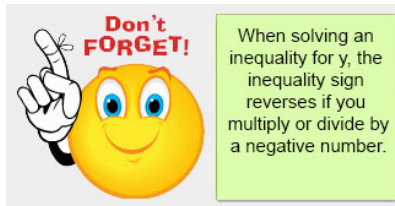
### Graph each inequality in two variables.

5.  $y - 1 \leq 2x$



6.  $-y < -x + 2$





## Classwork/Homework: 7.1 Graphing a Linear Inequality