

Graphing Linear Inequalities

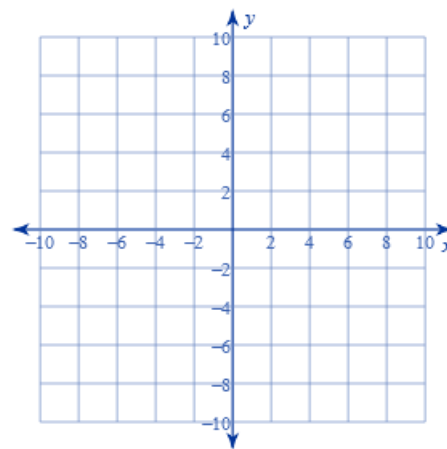
Notes: To graph a linear inequality, start by graphing it like you would an _____ . Then, decide if the line should be _____ or _____ .

and have lines which are _____ .

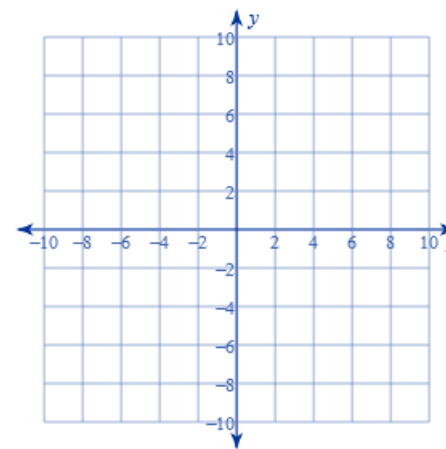
and have lines which are _____ .

Graph the inequalities, using a dashed or solid line as indicated by the sign.

1) $y \geq -\frac{6}{5}x + 1$



2) $y < 2x + 3$



Given the following inequalities, tell whether you would use a solid line or a dashed line when graphing each one.

1) $x + 2y \leq 10$

2) $5x - 2y < 0$

3) $2x + y \leq 2$

4) $5x + 4y < 20$

5) $x + 5y \geq 0$

6) $x + y > 0$

7) $x - 3y < -12$

8) $5x + 4y \geq 16$

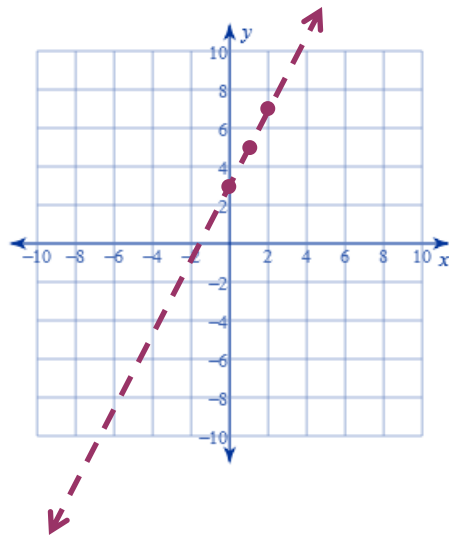
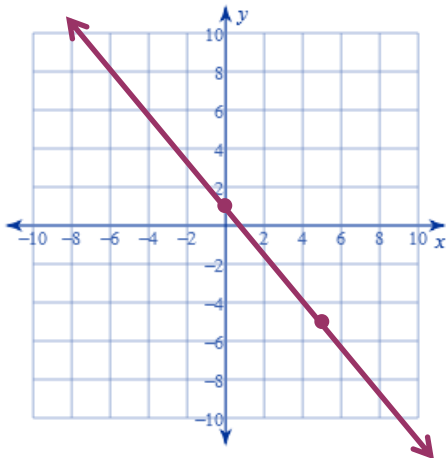
9) $y > 0$

10) $10x + 3y > -15$

The next step to graphing a linear inequality is to shade or color in a _____ - _____. We decide whether we are shading the _____ or the _____ by testing any point on the graph, using _____.

1) $y \geq -\frac{6}{5}x + 1$

2) $y < 2x + 3$



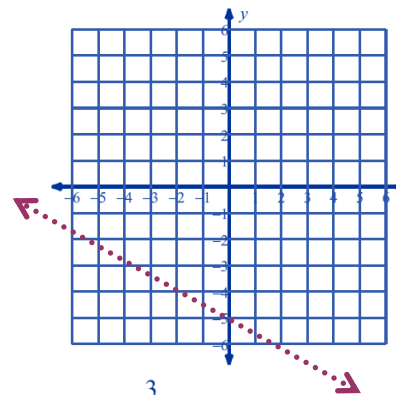
In graph #1, choose a test point and substitute its x- and y-coordinates into the equation. Does your test point make the inequality true?

Now do the same thing to graph #2. Color in the correct half-plane on both graphs, above.

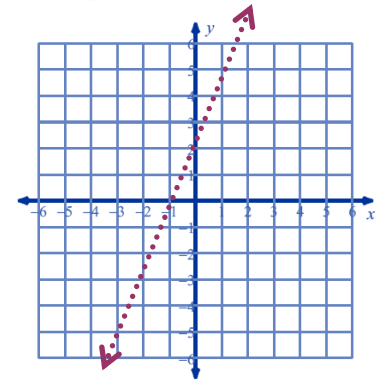
The inequalities have been graphed for you.

- For each, make the line either solid or dashed depending on the sign.
- Then, pick a test point, substitute, then shade the correct half-plan.

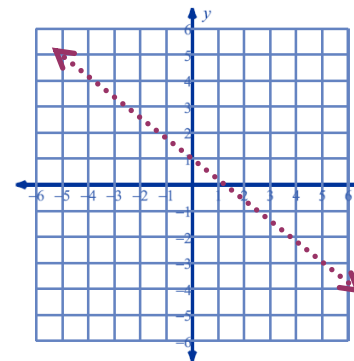
1) $y > -\frac{1}{2}x - 5$



2) $y \geq \frac{5}{2}x + 2$



3) $y > -\frac{3}{4}x + 1$



4) $y > -6x - 3$

