

Algebra RH

Essential Question: How do we graph linear inequalities?

Do Now: Determine whether each of the following ordered pairs is a solution to the linear inequality $x - 2y \geq 5$.

a. (2, -3)

b. (0, 0)

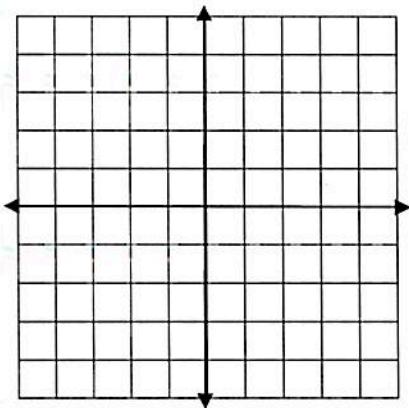
c. (1, -2)

Graphing Linear Inequalities

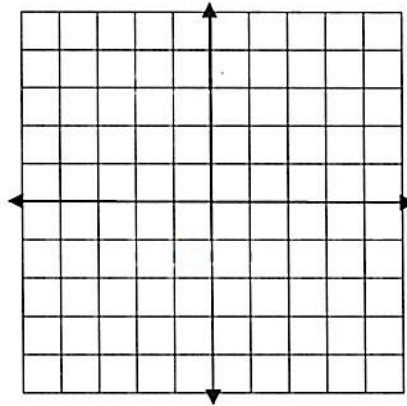
- Graph the corresponding linear equation
- Use a ---- line for $<$, $>$ and a solid line — for \leq , \geq
- Test a point on either half plane using the original inequality
- Shade solution set
- *Short-cut to shading: When using $>$, \geq , shade above the line
When using $<$, \leq , shade below the line*

Examples:

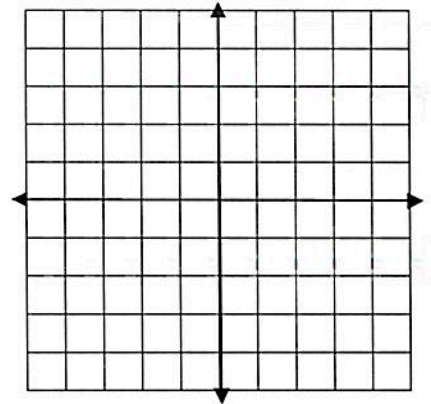
1. Graph $y \geq -2$



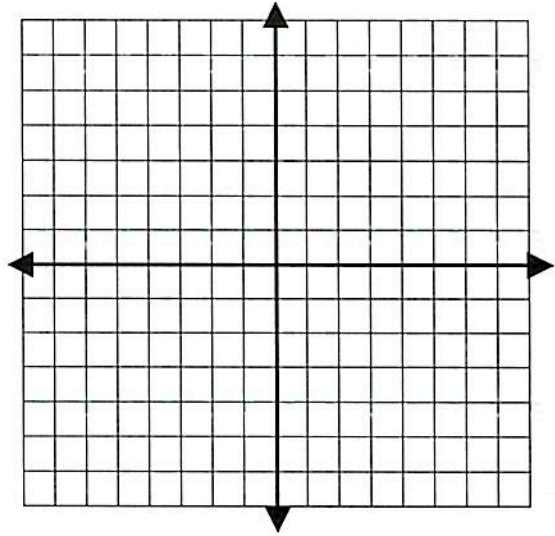
2. Graph $x < 4$



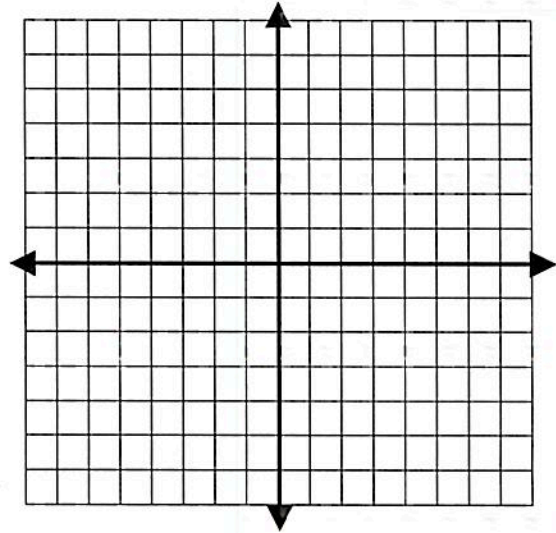
3. Graph $y < 2x - 3$



4. Graph $4x + 8y < -16$

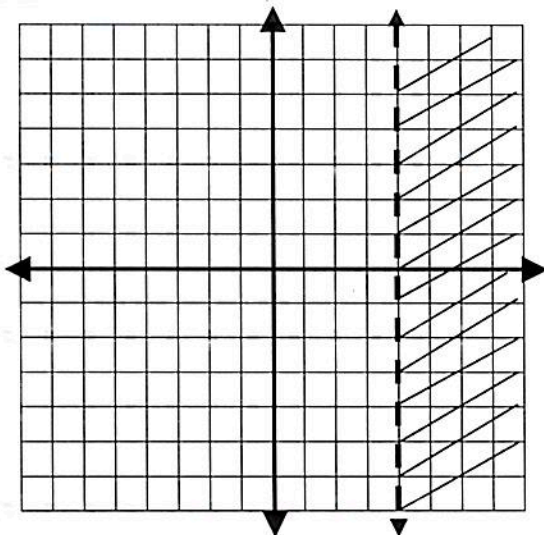


5. Graph $2x - y \geq -4$



6. Write the linear inequalities for the given graphs.

a.



b.

