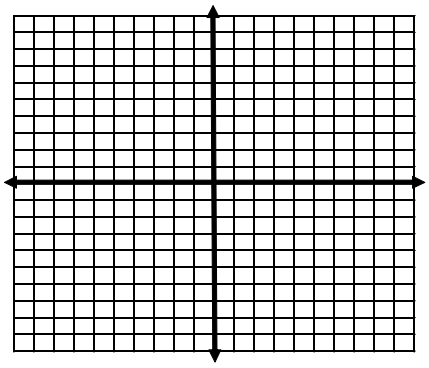
Algebra RH

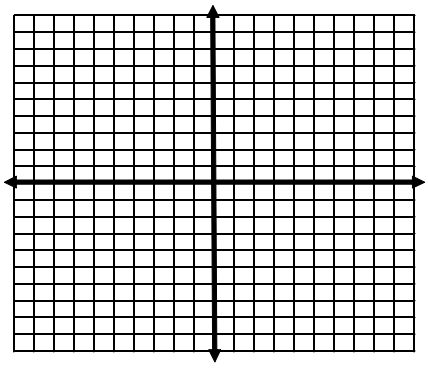
Essential Question: How do we graph systems of linear inequalities?

Do Now: Graph the following linear inequalities.

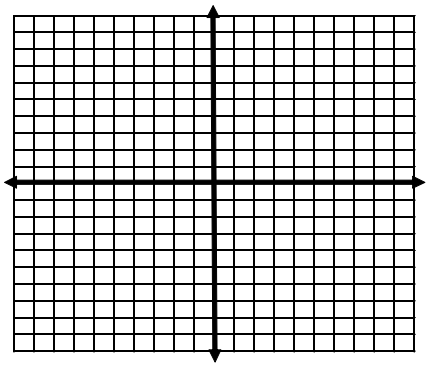
a. $y < 2$



b. $x \geq -1$



c. $y > x - 2$



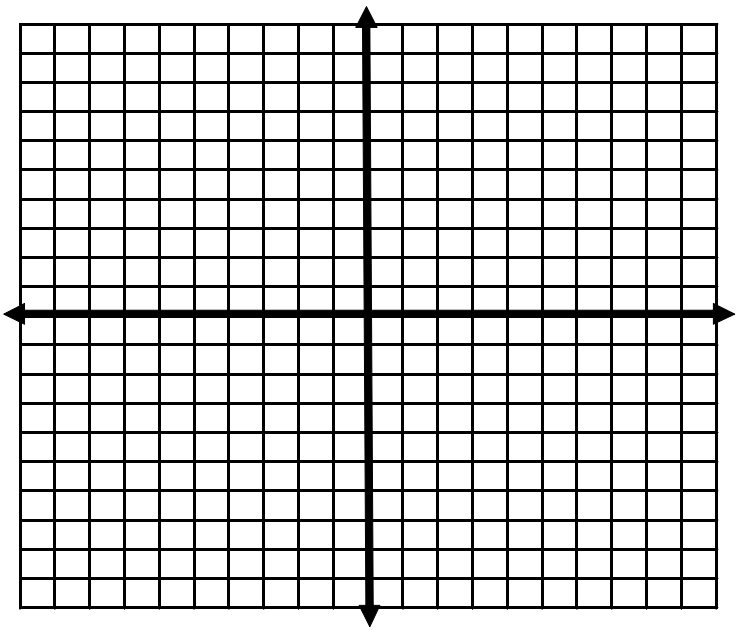
System of Linear Inequalities:

A **solution** of a system of linear inequalities is an ordered pair that is a solution in each inequality (works algebraically when substituted into both inequalities).

Graph the system of inequalities.

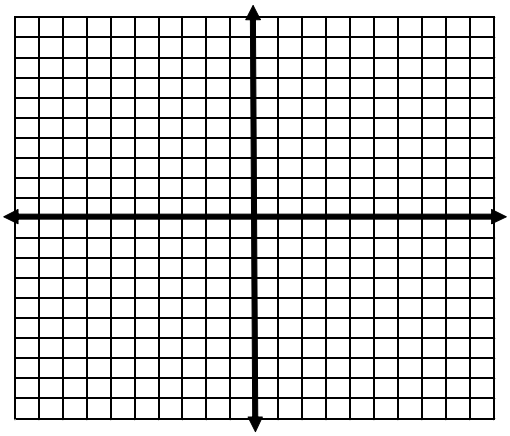
$y \geq x - 2$

$y < x + 1$

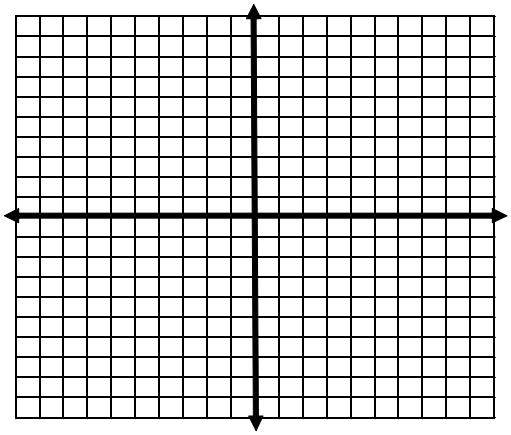


Examples: Graph the following systems of inequalities.

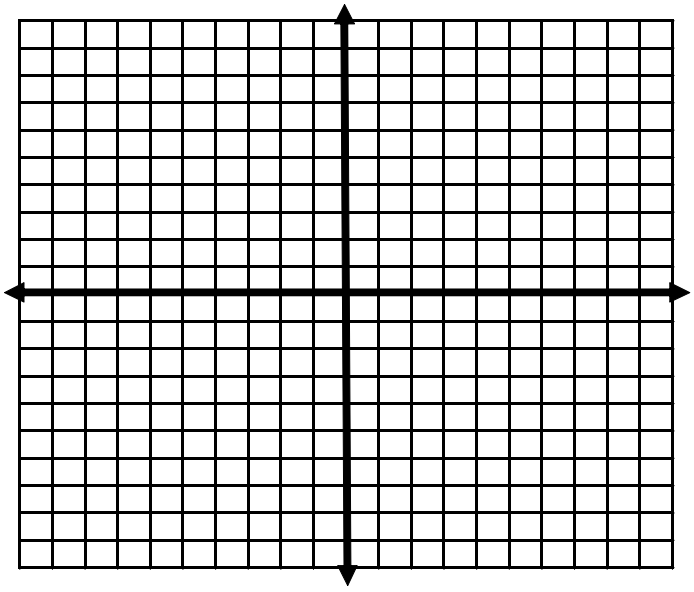
1. $x \geq -1$
   $y > x - 2$



2. $2 - y \geq 3x$
   $2y < 2x$

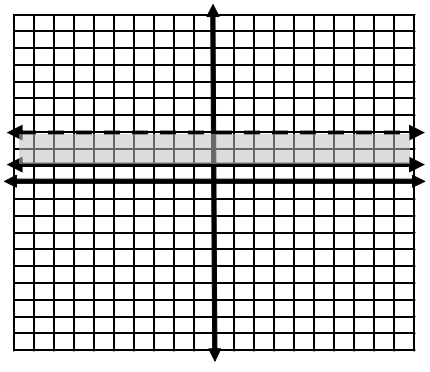


3. $y < 2$
   $x \geq 0$
   $y \geq \frac{1}{2}x - 3$

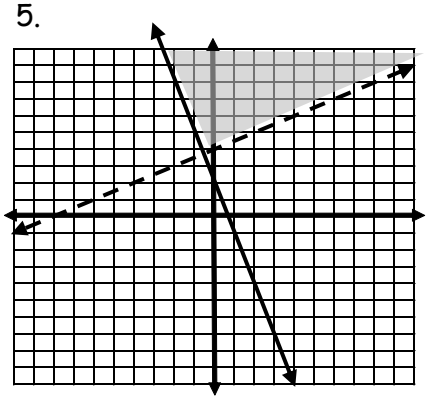


For examples 4-6, write a system of inequalities that defines the shaded region.

4.



5.



6.