Graphing Linear Inequalities

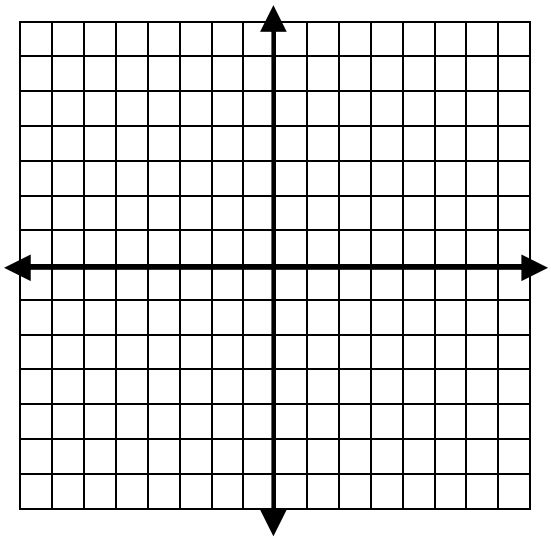
Graphing Linear Inequalities is just like graphing a linear equation but with a few extra steps.

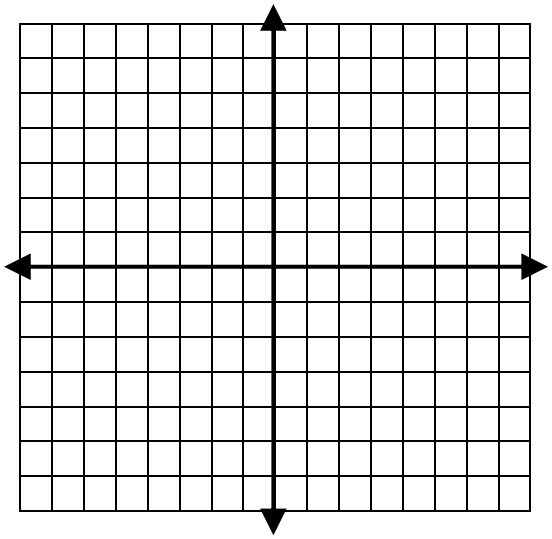
1) Rewrite the inequality in "y = mx + b" form if necessary.
2) Graph the linear inequality as if it were a linear equation.
3) Use a dashed ---- line for <, > and a solid line ——— for $\leq$, $\geq$.
4) *Shading: When using > or $\geq$, shade **above** the line*
   *When using < or $\leq$, shade **below** the line*
5) Always check to see that you have represented the correct solution set by testing a point in the shaded region.
6) If the test point makes the inequality true, you shaded correctly. If the test point in the shaded region makes the inequality false, shade the other half plane.
7) Label the graph with the original inequality.

Graph the solution sets to the following linear inequalities.

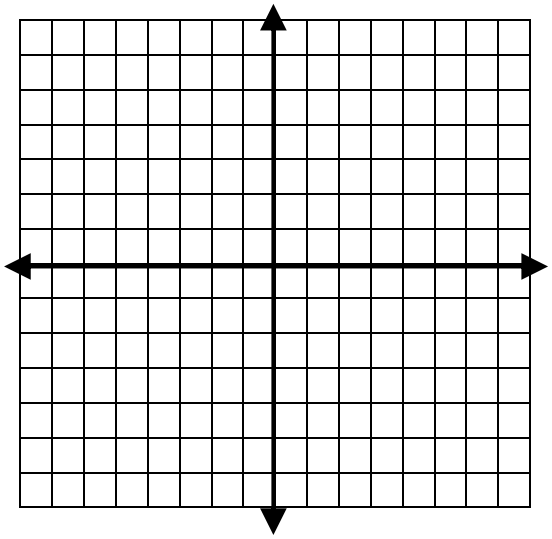
1. $x < 5$

2. $y < -x + 1$





3. $y \leq \frac{1}{3}x - 1$



4. $-4x - 3y \leq 9$