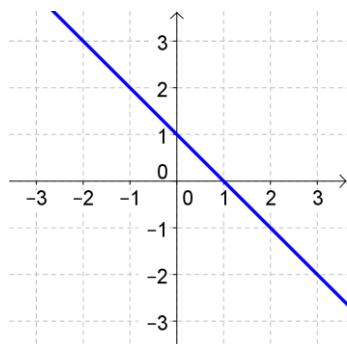
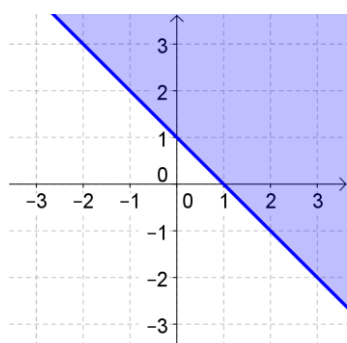


Graphing Linear Inequalities in Two Variables

Solutions to the linear equation $y = -x + 1$ are points on the line shown below:



Solutions to the **linear inequality** $y \geq -x + 1$ include all the points **on and above** the line:



Note: the line $y = -x + 1$ would be called the **boundary line** for $y \geq -x + 1$.

How to Graph Linear Inequalities in Two Variables

1. Solve the inequality for y .
2. Graph the boundary line.

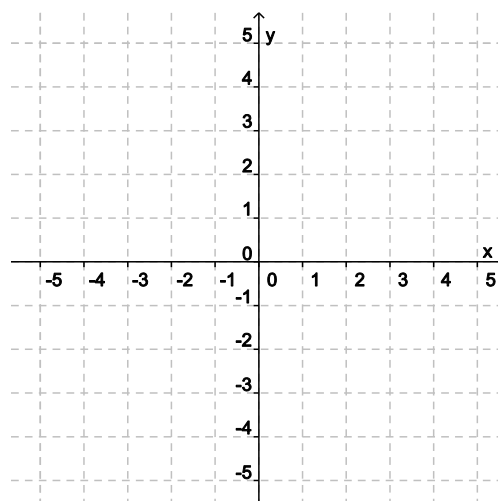
Use _____ if have $<$ or $>$.

Use _____ if have \leq or \geq .

3. If you have " $y >$ " or " $y \geq$ ", then shade half-plane _____ the line.
If you have " $y <$ " or " $y \leq$ ", then shade half-plane _____ the line.

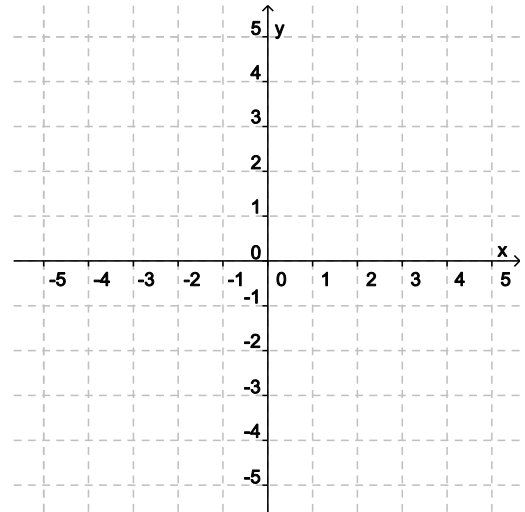
Ex 1.

Graph: $3x - 2y \geq 6$.

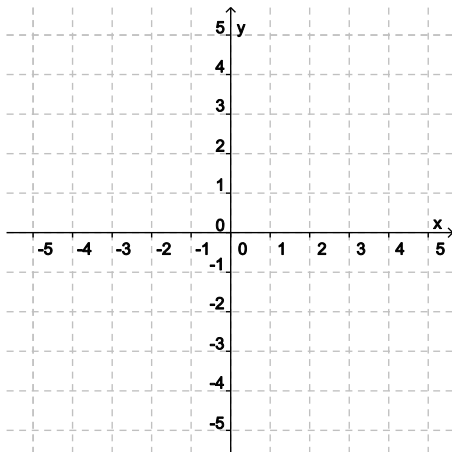


Ex 2.

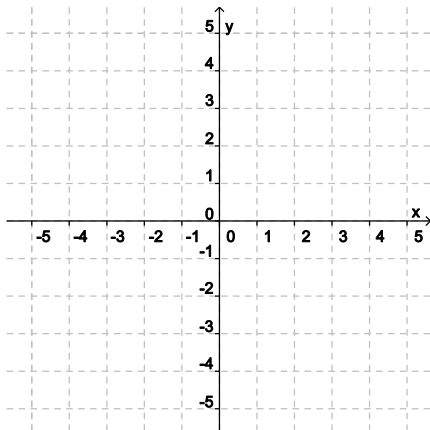
Graph: $y > -\frac{3}{2}x$.

**Ex 3.**

Graph: $y < -2$.

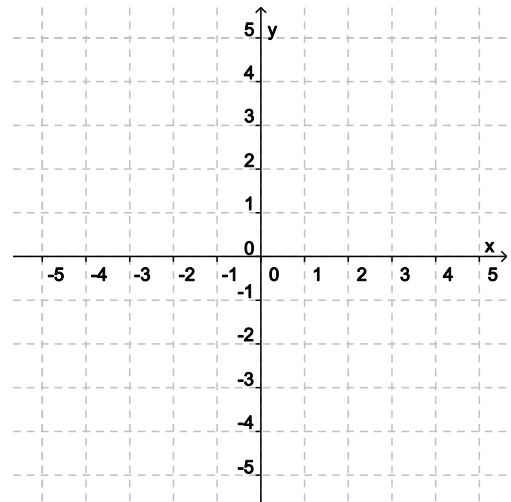
**Ex 4.**

Graph: $x \geq 1$.

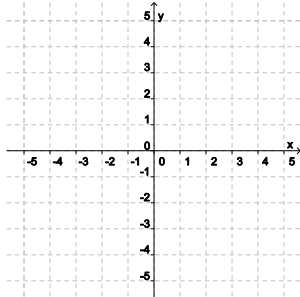


Practice

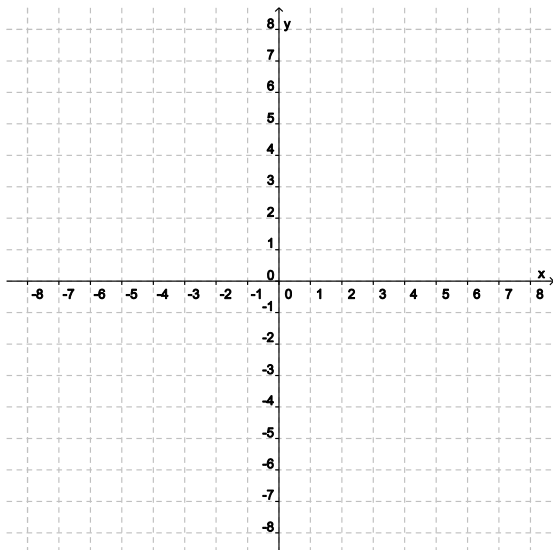
1. Graph: $2x - 4y < 8$.



2. Graph: $x < -3$.



3. Graph: $2x - y \leq 4$



Q: What comes once in a minute, twice in a moment, but never in a thousand years?