

Graphing Linear Inequalities

1. Solve for y . $y = mx + b$ $m = \text{slope}$
 $b = y\text{-intercept}$
 2. Graph slope and y -intercept.
 3. Solid line or Dashed line?
 4. SHADE!!
- *** Don't forget $y = \#$ and $x = \#$

SOLID LINE

\geq \leq $=$

DASHED LINE

$>$ $<$

SHADE ABOVE

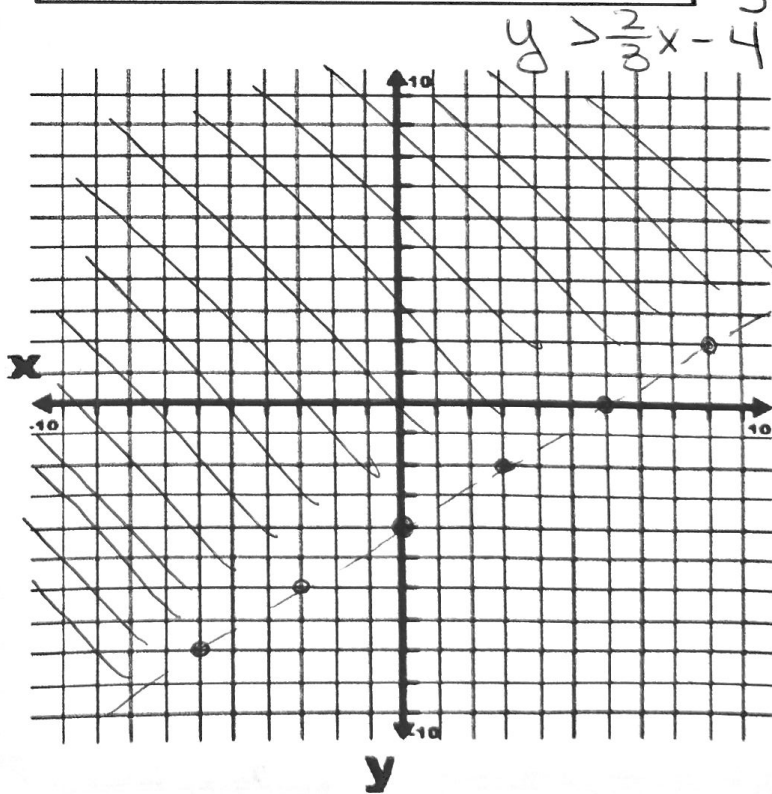
$>$, \geq

$<$, \leq

SHADE BELOW

Example: Graph $2x - 3y < 12$

$$\begin{array}{r} -2x \\ \hline -3y < -2x + 12 \\ \hline -3y < \frac{-2x}{-3} + \frac{12}{-3} \\ \hline y > \frac{2}{3}x - 4 \end{array}$$



Ex: $(0, 0)$

$$2(0) - 3(0) < 12$$

$$0 - 0 < 12$$

$$0 < 12 \checkmark$$

← Test Point: Is it shaded correctly?
Pick a point in shaded area. Plug back into equation. See if it's true. If it's true, it's shaded correctly.