

## **5-3: Graphing Linear Inequalities**

**Objectives: I can graph a linear inequality**

**Vocab: Inequality, solution set**

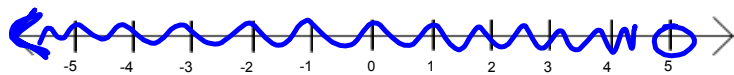
&lt;

REVIEW: &gt;

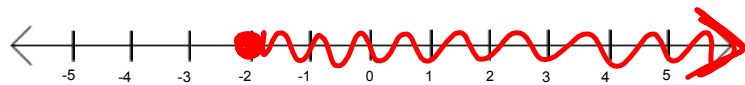
 $\leq$  $\geq$ 

Graph the inequalities on a number line

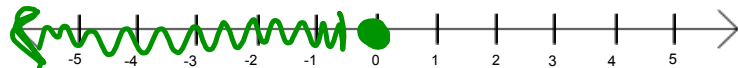
$x < 5$



$x \geq -2$



$x \leq 0$

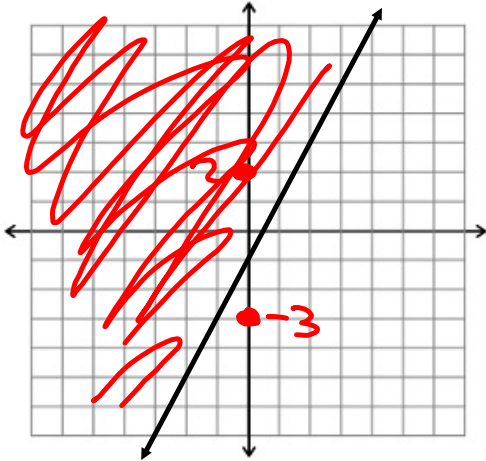


$x > -4$

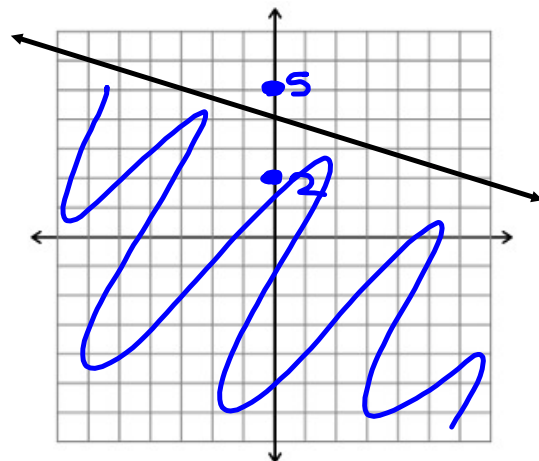


Shade the linear inequality:

greater than  
 $y \geq 2x - 1$

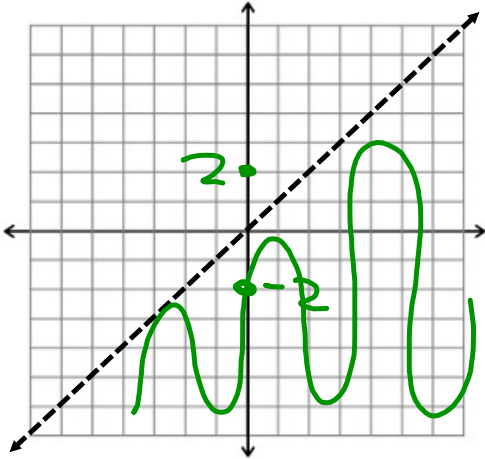


less than  
 $y \leq -\frac{1}{3}x + 4$

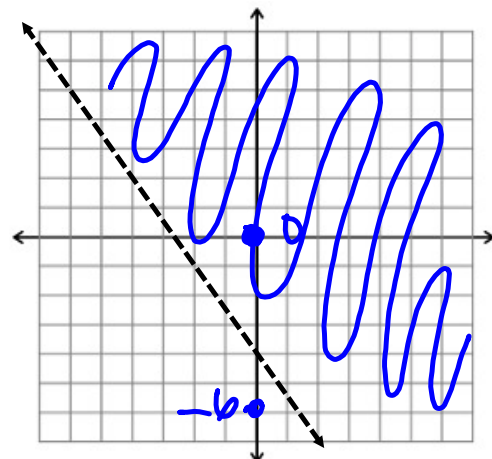


Shade the linear inequality:

less than  
 $y < x$



greater  
 $y > -\frac{3}{2}x - 4$



## Graphing Linear Inequalities:

$$y = mx + b$$

y-int, slope

$<$ ,  $>$

dotted line

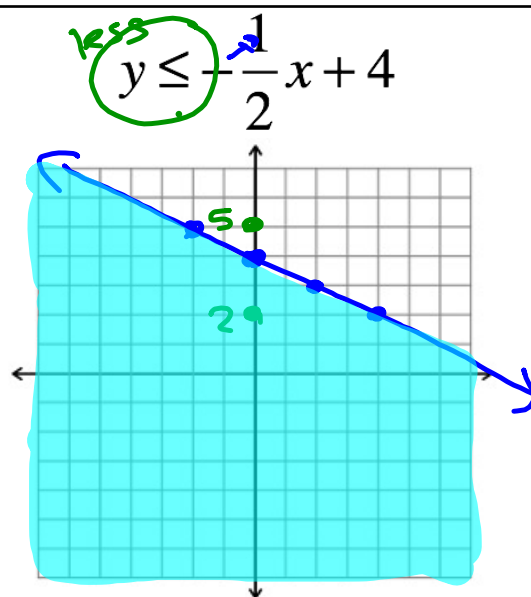
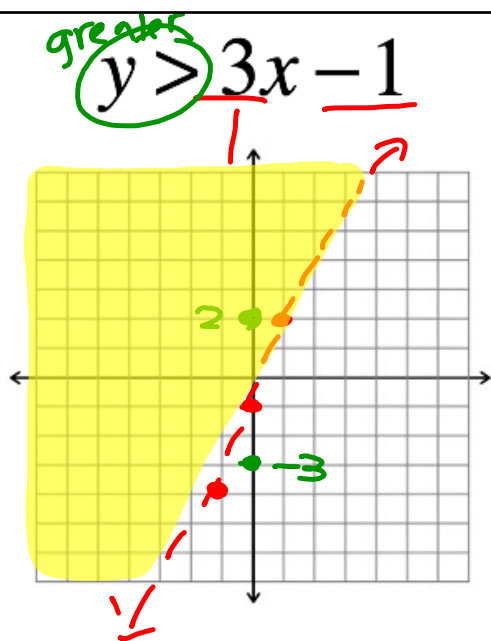
$\leq$ ,  $\geq$

Solid line

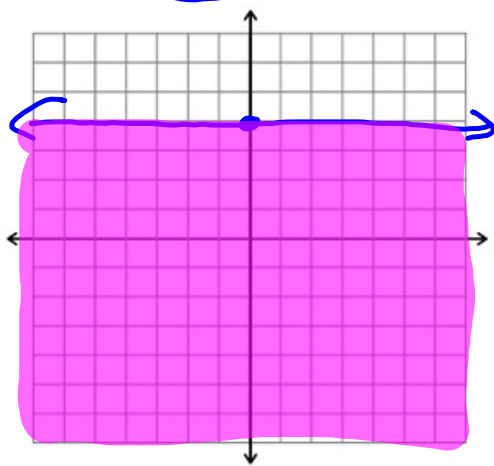
shading

y-axis

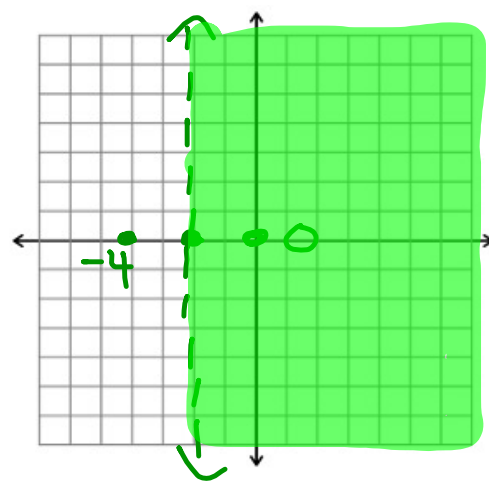
y-value on each side  
of line to determine  
Shading

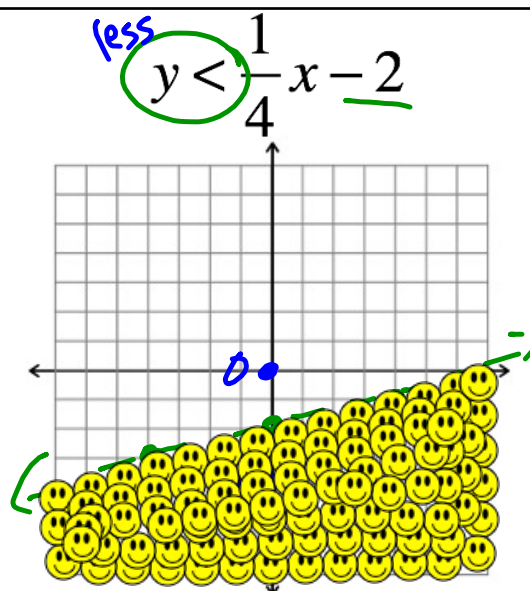
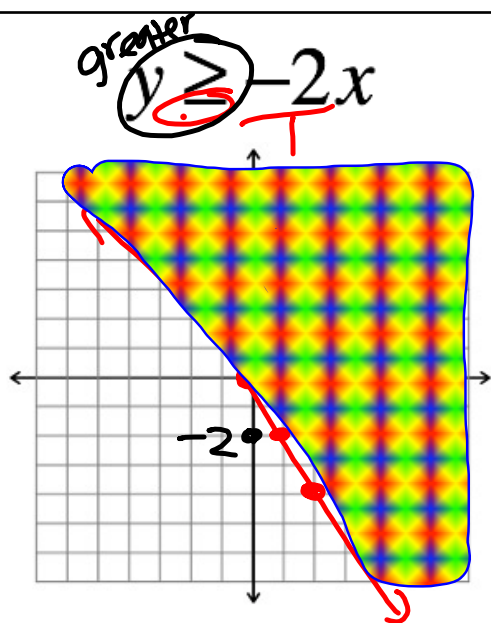


*less*  
 $y \leq 4$



*greater*  
 $x > -2$

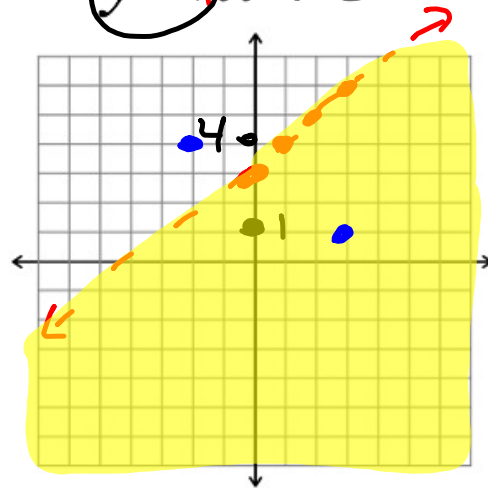






Graph the linear inequality:

$$y < x + 3$$



Is  $(-2, 4)$  in the solution set? **NO**

Is  $(3, 1)$  in the solution set? **YES**