

Warmup:

#1)

$y = mx + b$

X	Y
-5	-36
-2	-24
1	-12
4	0
7	12

$\left. \begin{array}{l} \leftarrow +3 \\ \leftarrow +3 \\ \leftarrow +3 \\ \leftarrow +3 \end{array} \right\} \begin{array}{l} +12 \\ +12 \\ +12 \\ +12 \end{array}$

Write the equation that represents this table of values.

$$m = \frac{12}{3} = 4 \quad b = -16$$

$$y = 4x + b$$

$$\boxed{y = 4x - 16}$$

-2	-24
-1	-16
0	-12
1	-8
2	-4
3	0

$$y = 4x + b$$

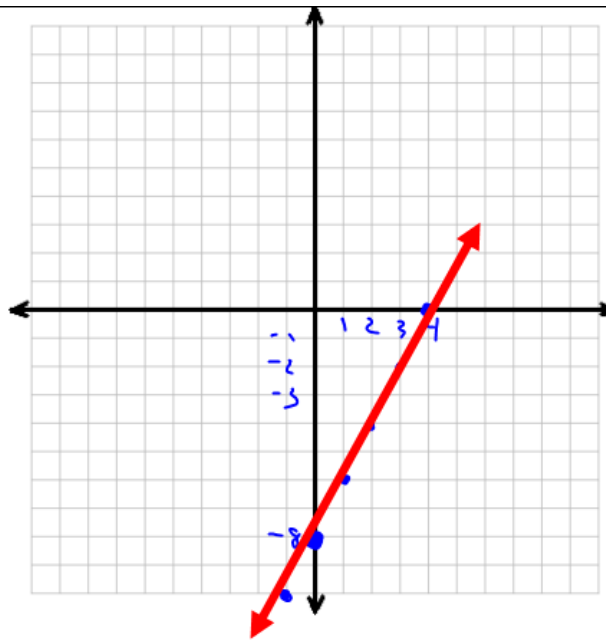
$$-36 = 4(-5) + b$$

$$-36 = -20 + b$$

$$\begin{array}{r} +20 \\ +20 \end{array}$$

$$\boxed{-16 = b}$$

#2)



Graph the equation:

solve for y:

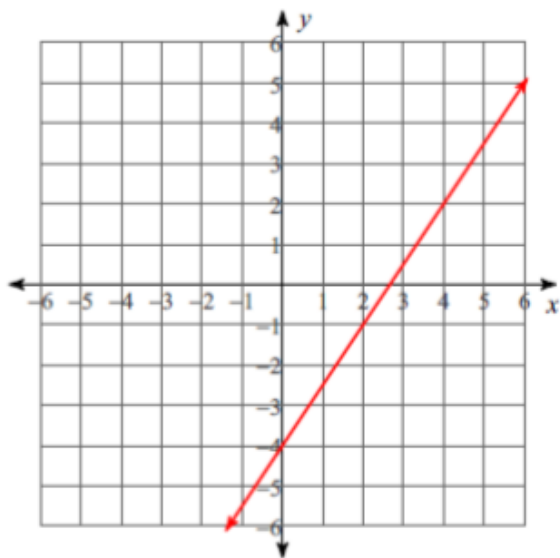
$$-2y + 4x = 16$$

$$-2y = -4x + 16$$

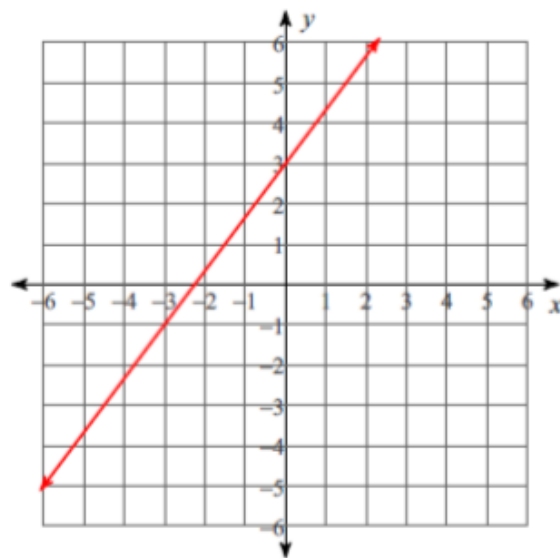
$$y = 2x - 8$$

Homework #5 Answer Key

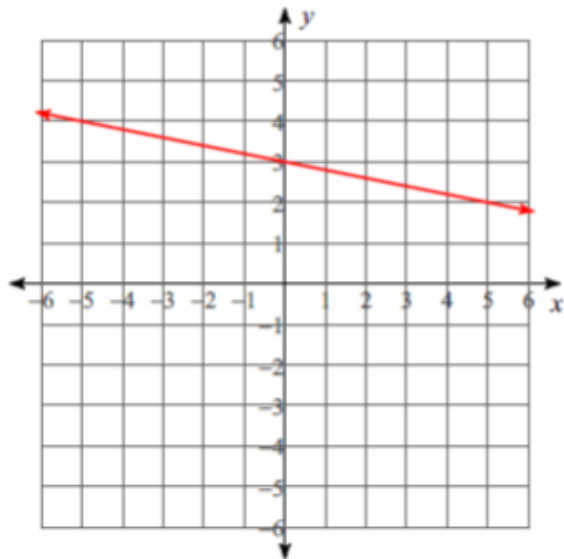
1) $y = \frac{3}{2}x - 4$



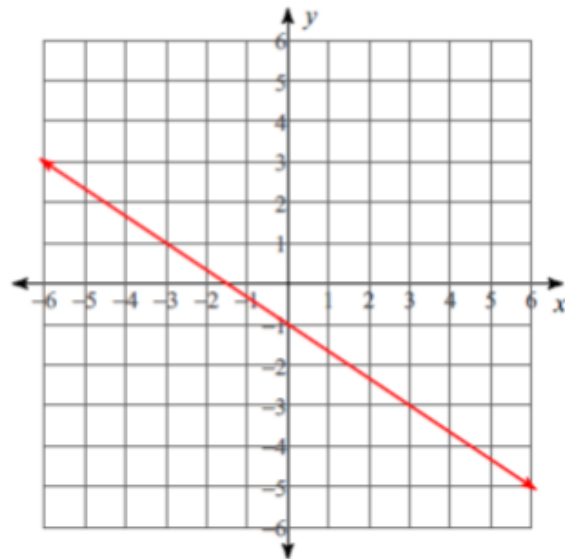
2) $y = \frac{4}{3}x + 3$



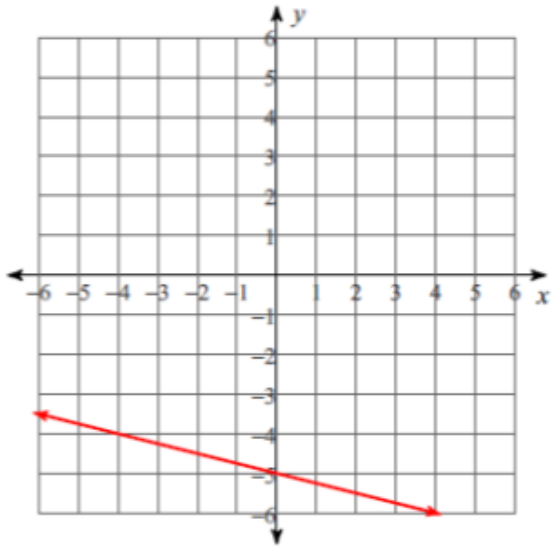
$$3) y = -\frac{1}{5}x + 3$$



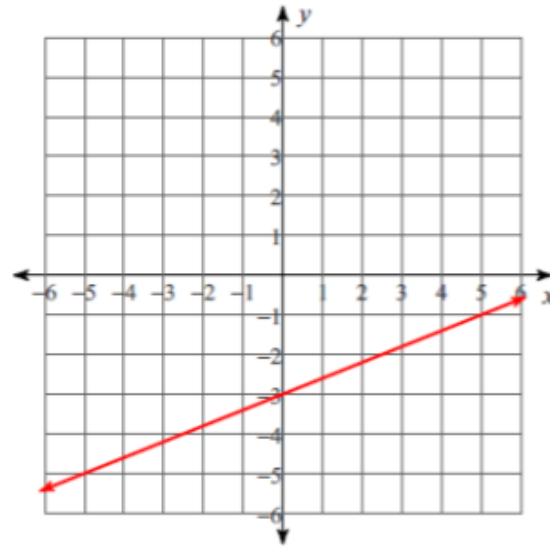
$$4) y = -\frac{2}{3}x - 1$$



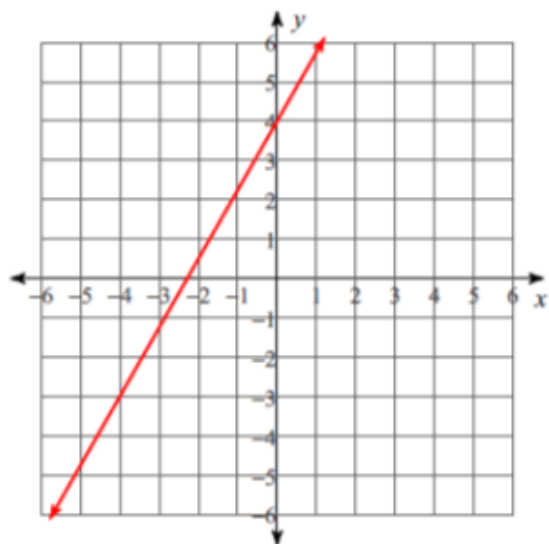
5) $x + 4y = -20$



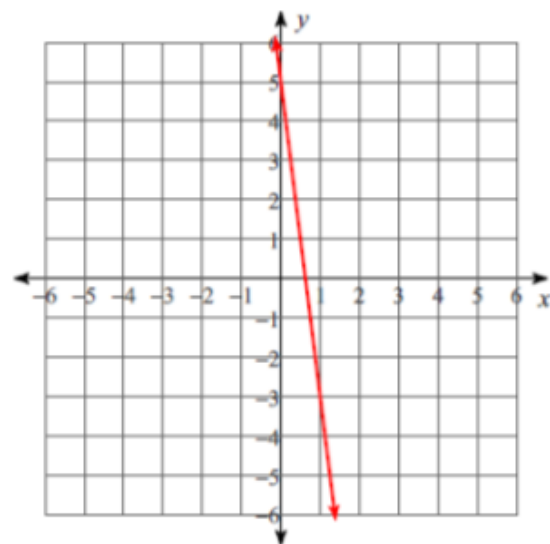
6) $2x - 5y = 15$



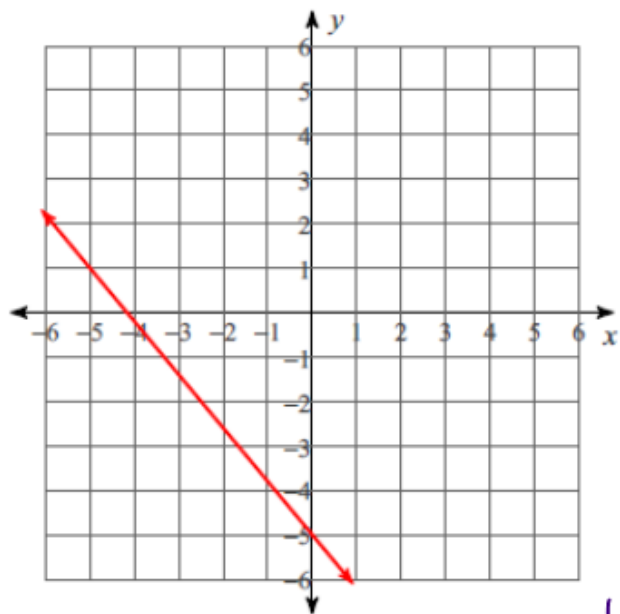
7) $7x - 4y = -16$



8) $8x - 5 = -y$



9) $6x + 25 = -5y$

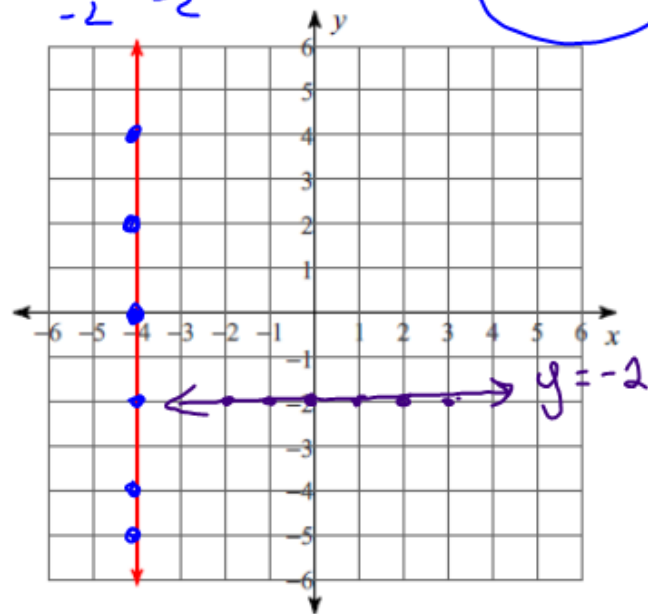


horizontal

$$y = -2$$

$$y = 0x - 2$$

10) $\frac{8}{-2} = \frac{-2x}{-2}$



$x = -4$

 $x = \#$ vertical
line

E.Q.:

How do I graph a linear inequality in two variables?

Standards:

MGSE9-12.A.REI.12

Graph the solution set to a linear inequality in two variables.

Steps to graph a linear inequality in two variables:

1. Put the inequalities into

$$\frac{\text{slope}}{\text{intercept}} \text{ Form,}$$
$$y = mx + b.$$

3. The solution also includes points not on the line, so you need to shade the region of the graph:

a) shade above the line for
' $y >$ ' or ' $y \geq$ '.

b) shade below the line for
' $y <$ ' or ' $y \leq$ '.

Example 1:

$$3x + 4y > -4$$

$$4y > -3x - 4$$

$$y > -\frac{3}{4}x - 1$$

Put in Slope-Intercept Form:**dotted or solid?****shade above or below?**

$$y > -\frac{3}{4}x - 1$$

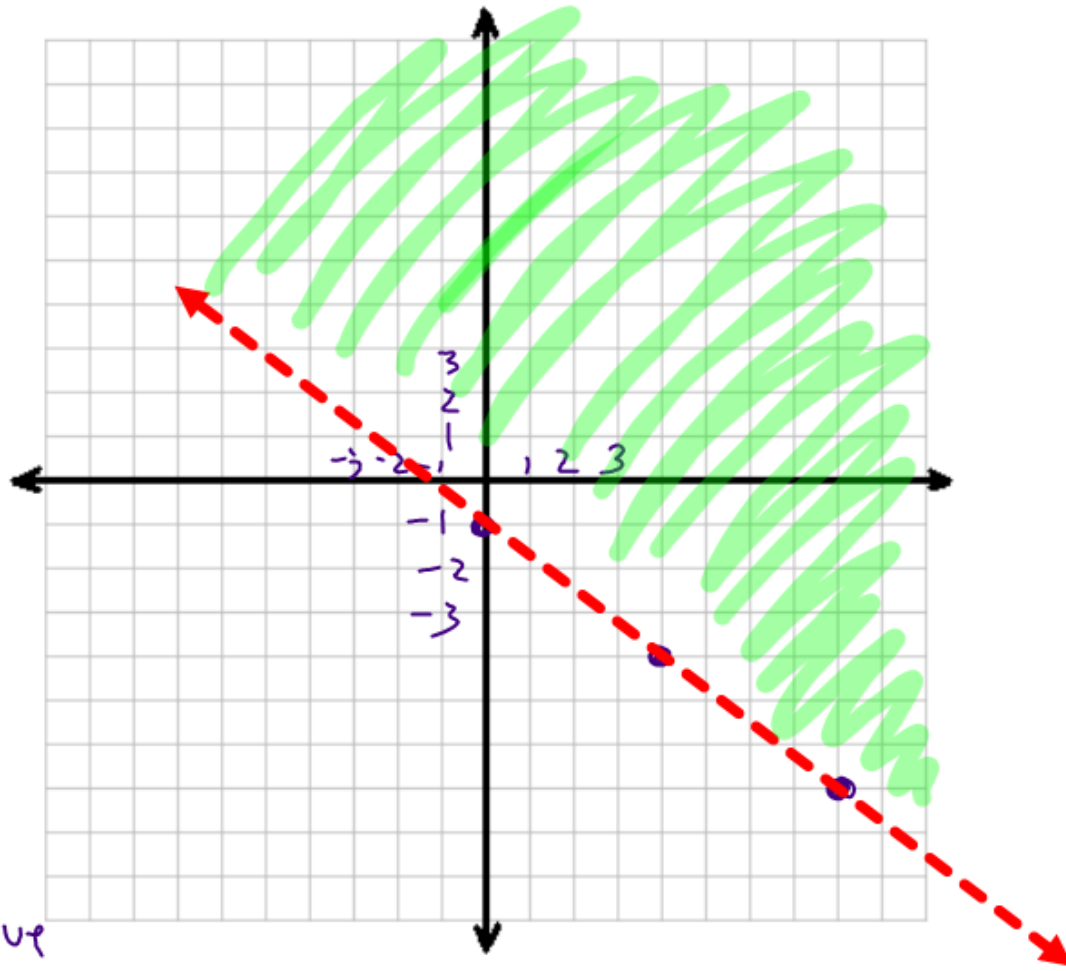
below above

above below

above below

below above

x > 4



Example 2:

$$4x + 2y \leq -6$$

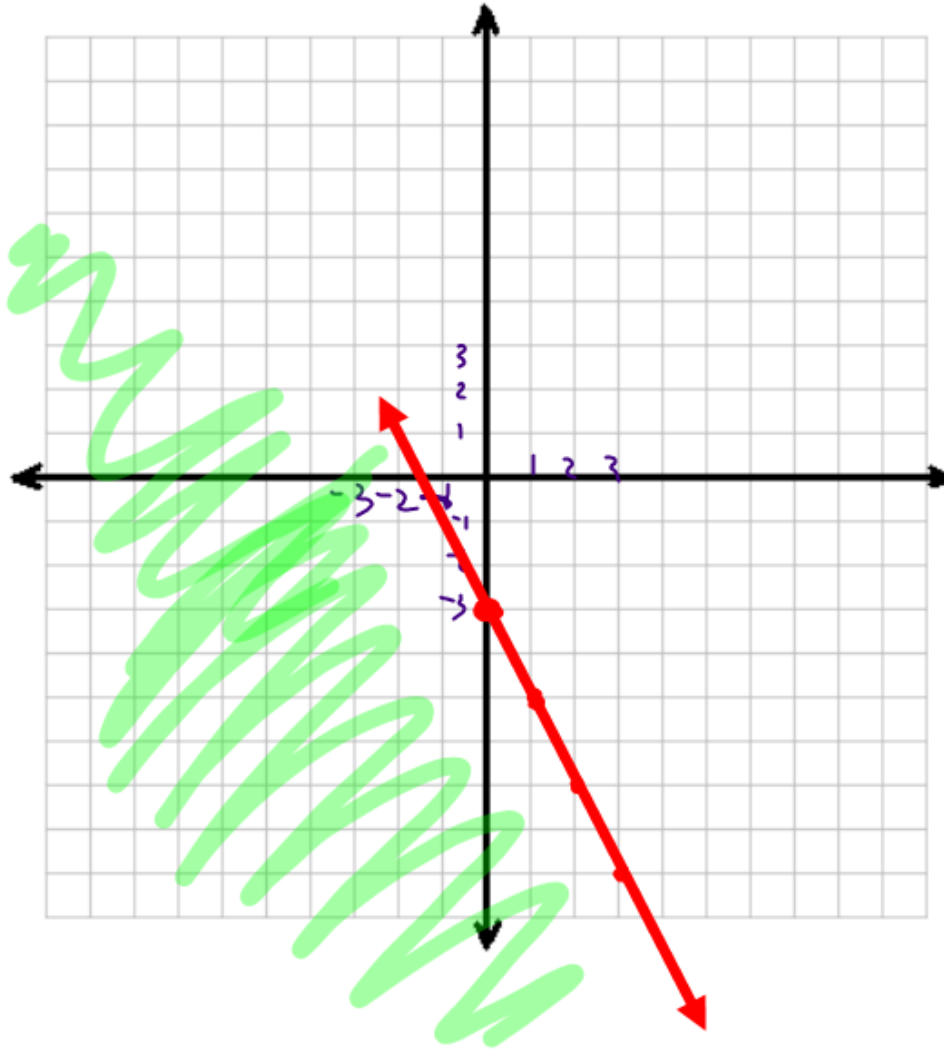
$$2y \leq -4x - 6$$
$$y \leq -2x - 3$$

Put in Slope-Intercept Form:

dotted or **solid?**

shade above or **below?**

$$y \leq -2x - 3$$



Example 3:

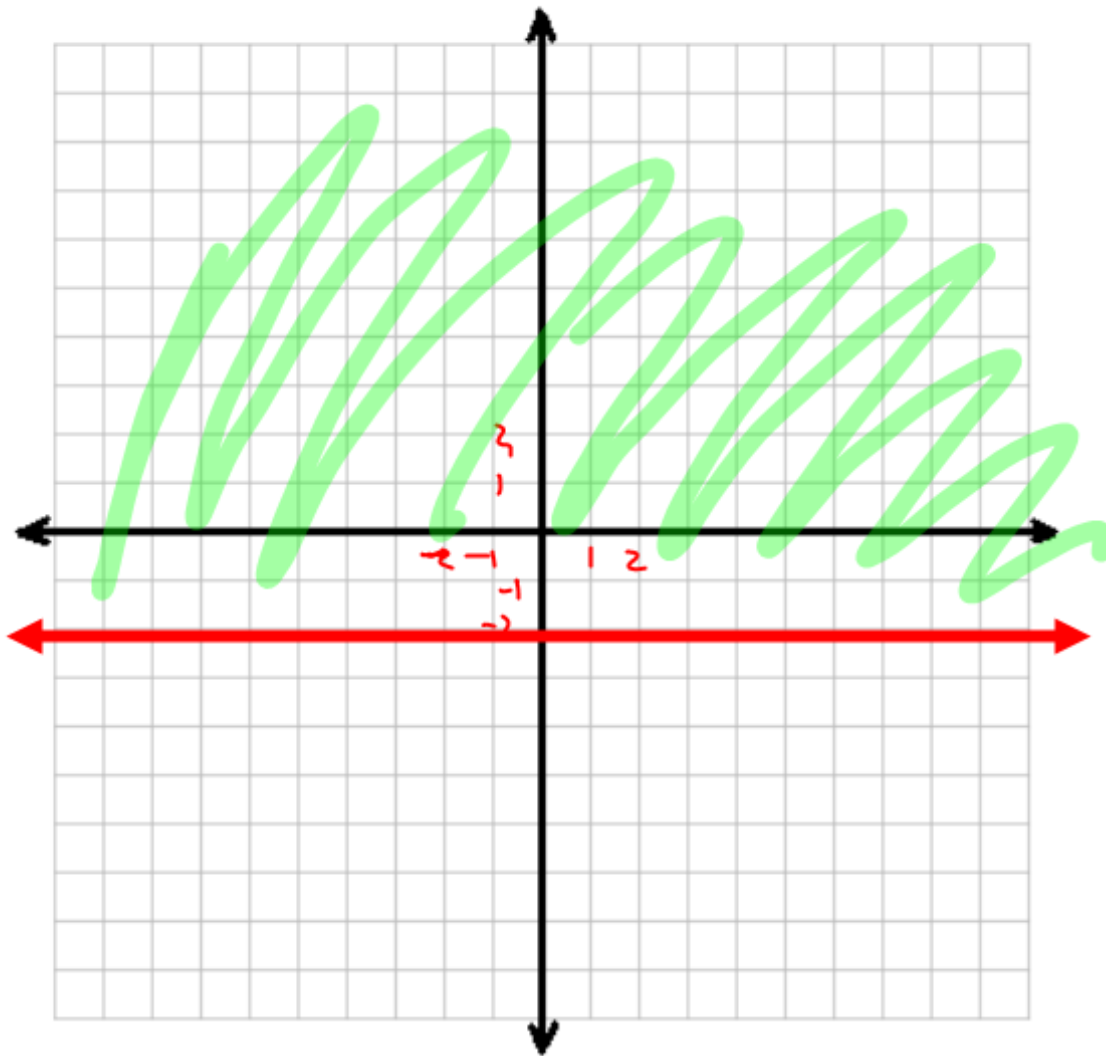
$$y \geq -2$$

Put in Slope-Intercept Form:

dotted or solid?

shade above or below?

$$y \geq -2$$



Example 4:

$$\cancel{3x} - y > 1$$

$-3x$

Put in Slope-Intercept Form:

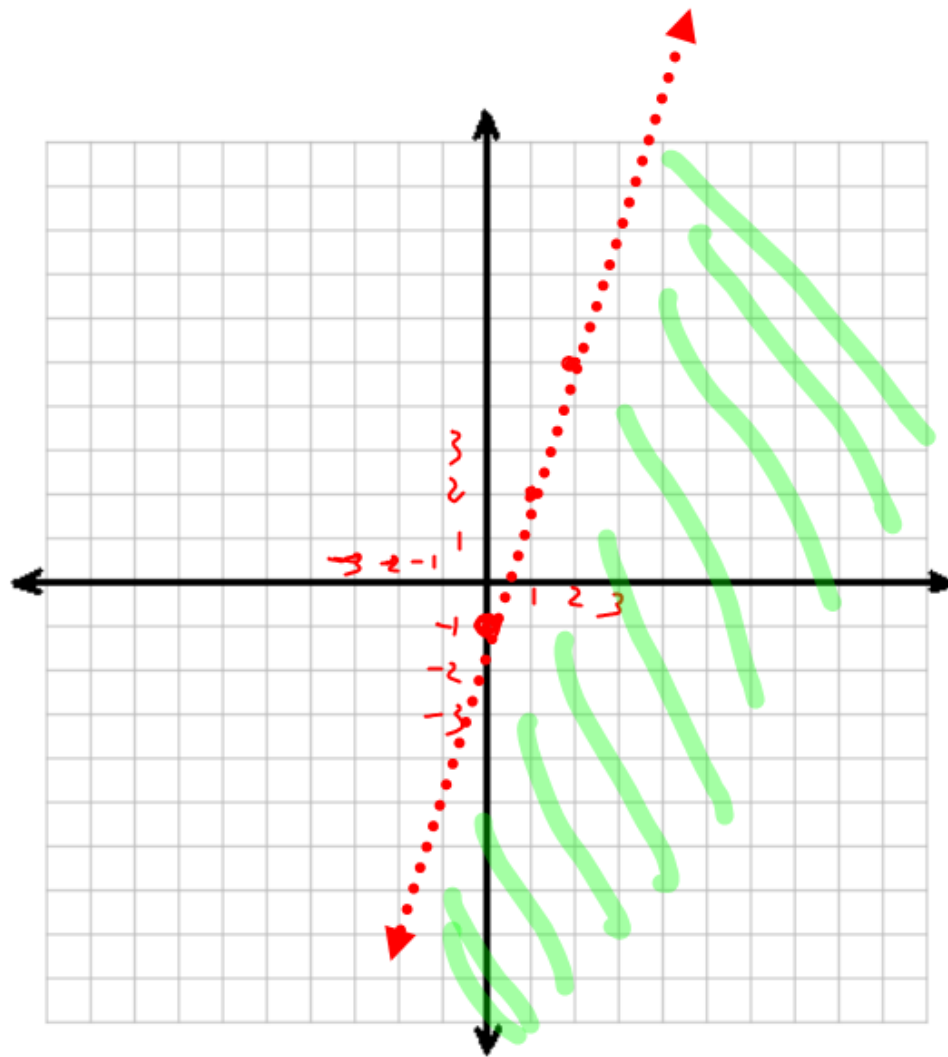
$$\underline{-y} > \underline{-3x} + \underline{1}$$

-1 -1 -1

$$y < 3x - 1$$

dotted or solid?**shade above or below?**

$$y < 3x - 1$$



Homework #6

Graphing Two Variable Inequalities

★ **Quiz #5 Monday on
graphing equations and
inequalities** ★