

6-6 Graphing Inequalities in 2 variables

$$y = mx + b$$

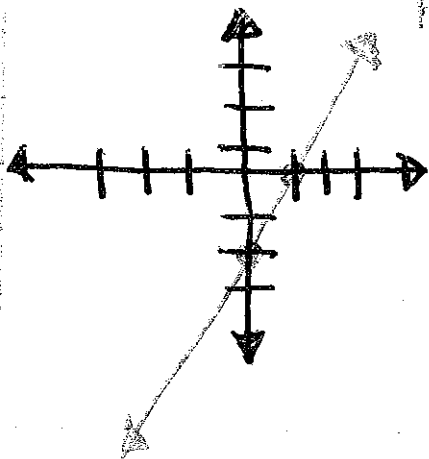
Slope
 $\left(\frac{\text{rise}}{\text{run}}\right)$

y-int.

$$y = 2x - 2$$

$$m = \frac{2 \uparrow}{1 \rightarrow}$$

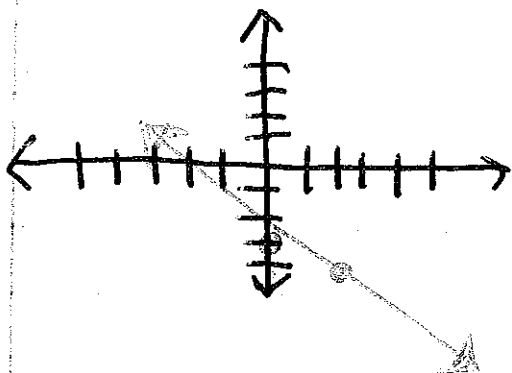
$$b = -2$$

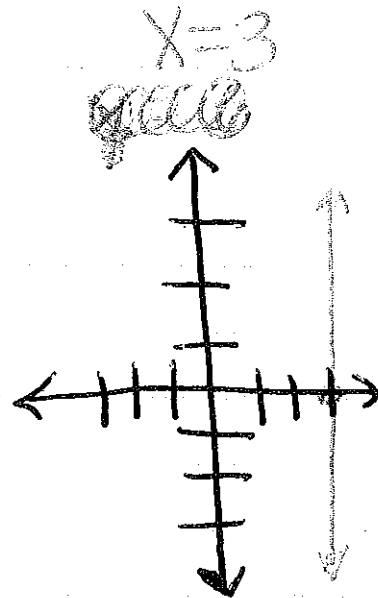
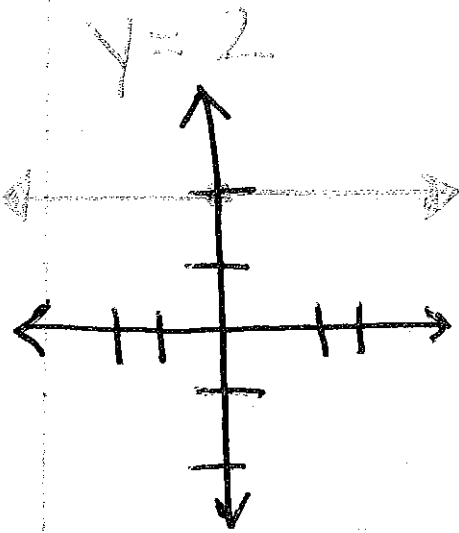


$$y = -\frac{1}{2}x - 3$$

$$m = \frac{-1 \downarrow}{2 \rightarrow}$$

$$b = -3$$





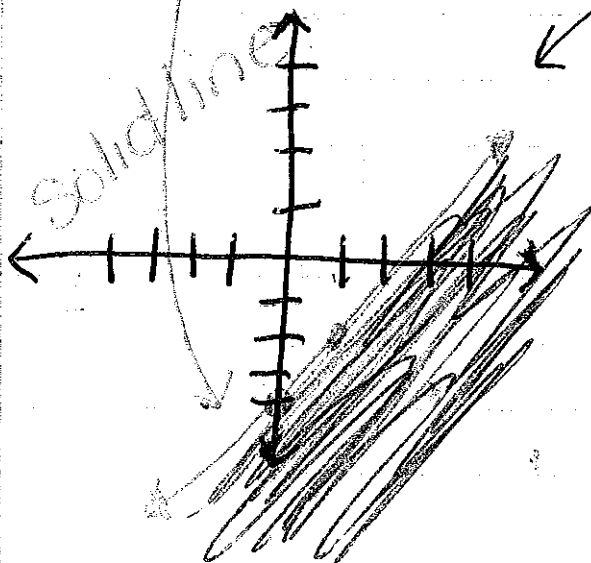
1.)
$$\frac{y - 2x - 4}{+2x + 2x}$$

$\rightarrow y = mx + b$

$y \leq 2x - 4$

$y < 2x - 4$

$y = 2x - 4$



x	y	x	y
$(0, 0)$		$(3, -3)$	

$y \leq 2x - 4$

$0 \leq 2(0) - 4$

$0 \leq -4$

False

$-3 \leq 2(3) - 4$

$-3 \leq 2$

True

$$2) \quad \begin{array}{r} 2y - 4x > 6 \\ +4x \quad +4x \end{array}$$

$$y = mx + b$$

$$\frac{2y}{2} > \frac{4x}{2} + \frac{6}{2}$$

$$y > 2x + 3$$

$$y > 2x + 3$$

$$(0, 0) \quad (-4, 4)$$

$$0 > 2(0) + 3$$

$$4 > 2(-4) + 3$$

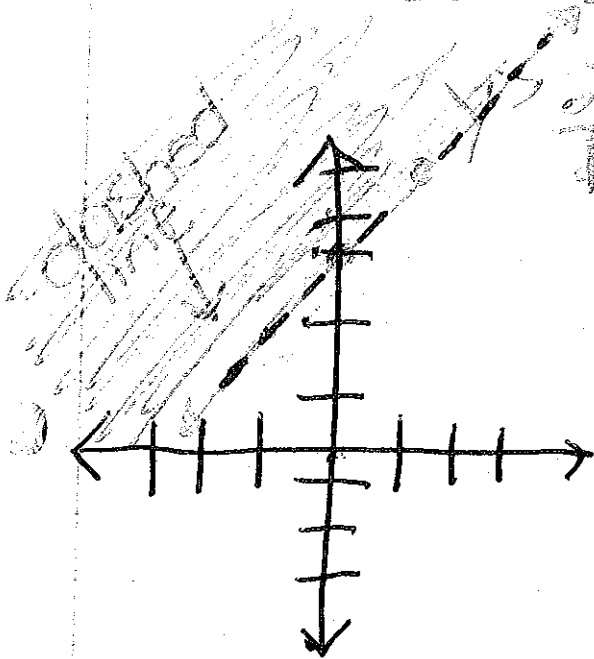
$$0 > 3$$

$$4 > -8 + 3$$

False

$$4 > -5$$

True



$>, <$ dashed line

\geq, \leq solid line

$$3) \quad \begin{array}{r} y \geq 3 \\ y > 3 \end{array}$$

$$y = 3$$

