Side w/ No Graphs:

**May 16, 2007**

# 6.8 Graphing Linear Inequalities in 2 Variables

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Linear Inequalities Can Be written 4 ways

$ax+by<c$ $\quad ax+by>c$

$ax+by\leq c$ $\quad ax+by\geq c$

*Standard Form of an Inequality

Linear

$a, b, \& c$ are #'s $\quad (x, y)$ ordered Pairs

Check whether the ordered pairs are Solutions of $2x - 3y \geq -2$

$(0, 0)$ ($x$, $y$)

$2(0) - 3(0) \overset{?}{\geq} -2$

$0 - 0 \overset{?}{\geq} -2$

$0 \geq -2$ ✓

True... $(0, 0)$ is a Solution

$(0, 1)$ ($x$, $y$)

$2(0) - 3(1) \overset{?}{\geq} -2$

$0 - 3 \overset{?}{\geq} -2$

$-3 \not\geq -2$

False... $(0, 1)$ is NOT a Solution

$(2, -1)$ ($x$, $y$)

$2(2) - 3(-1) \overset{?}{\geq} -2$

$4 + 3 \overset{?}{\geq} -2$

$7 \geq -2$ ✓

True... $(2, -1)$ is a Solution

# Wr Graphs Review

Recall: Graph

$3x - y = 4$ → Stand. form

Solve for "y" to get it into Slop-Int. form

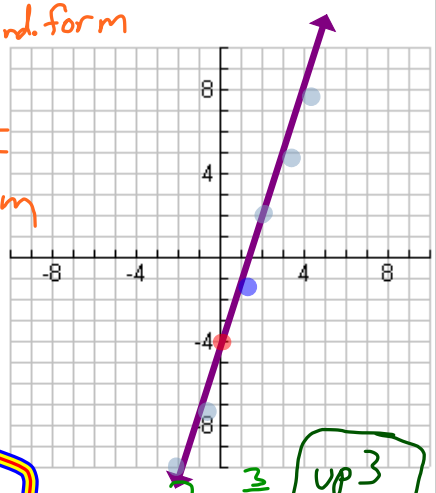
$3x - y = 4$

$-3x \quad -3x$

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

$y = 3x - 4$

$y = mx + b$




$m = 3 = \frac{3}{1}$ up 3 / Rt 1

$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$

$b = -4 \Rightarrow (0, -4)$

Graph $3x-y \geq 4$

St. form

Solve for "y"

$-3x \quad -3x$

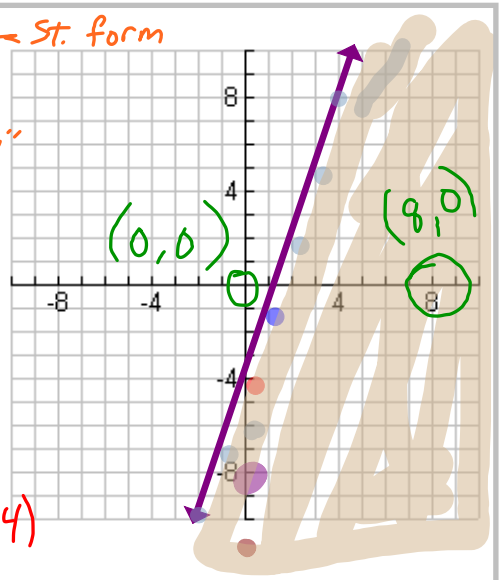
$\frac{-y}{-1} \geq \frac{-3x+4}{-1}$

$y \leq 3x-4$

Do this 1st since ÷ by -1

$m = 3 = \frac{up\ 3}{R\ 1}$

$b = -4 \Rightarrow (0,-4)$




$3x-y \geq 4$

Check good and bad!

Good (8,0)

$3(8)-(0) \stackrel{?}{\geq} 4$

$24-0 \stackrel{?}{\geq} 4$

$24 \geq 4$ ✓

true

Bad (0,0)

$3(0)-(0) \stackrel{?}{\geq} 4$

$0-0 \stackrel{?}{\geq} 4$

$0 \not\geq 4$

False

Title: Jan 23 - 4:16 PM (4 of 5)

O.T.L.

① Pg 370: 2, 5, 6, 7, 14-19 (all)

② Chapter 6 Test Monday