Algebra 1 Name: _____

Unit 2: Lesson 7 Date: _____ Period: _____

Graphing Linear Inequalities in Two Variables (6.5)

Essential Question:

- How can you represent inequalities graphically?

Goal: I can graph a linear inequality on the coordinate plane.

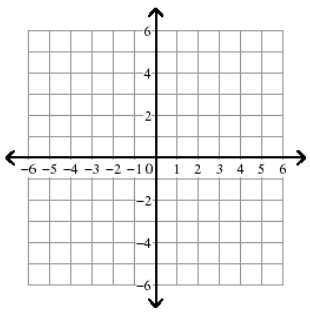
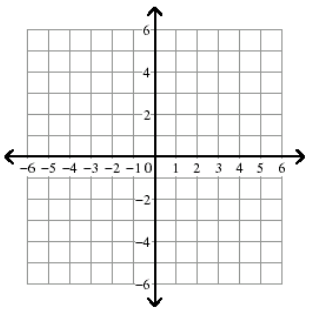
Steps:

1) Put into slope-intercept form
2) Plot the BOUNDARY line ($y = mx + b$)
   - *Dotted Line* → $>$ *or* $<$
   - *Solid Line* → $\geq$ *or* $\leq$
3) Shade the Solution Set
   - Test Point: use (0 , 0)
     - Shade the appropriate region, where the inequality is true
   - Short-Cut
     - $\geq, >$ Shade Up
     - $\leq, <$ Shade Down

Section 1: Checking Solutions of Inequalities.

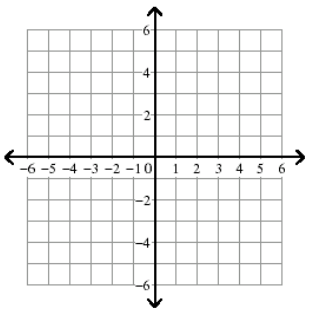
1) Check whether the ordered pairs are solutions of: $x - 4y < 1$ a.) (5, 1) b.) (0, 0) ***Answer:*** a.) b.)	**YT 1)** Check whether the ordered pairs are solutions of: $4x + 5y \leq 12$ a.) (-3, 5) b.) (6, -8) ***Answer:*** a.) b.)

Section 2: HOY… Graphing Linear Inequalities that are Horizontal.

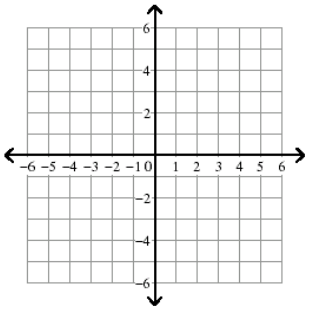
2) Graph: $y > -3$ 	**YT 2)** Graph: $y \leq 1$ 

Section 3: VUX… Graphing Linear Inequalities that are Vertical.

3) Graph: $x \geq -5$



YT 3) Graph: $x < 2$



Section 4: Graphing Linear Inequalities in Two Variables.

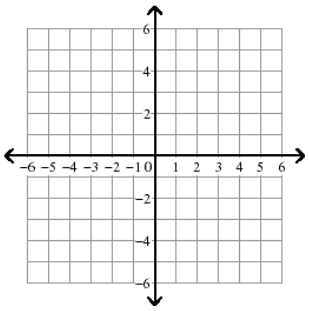
4) Graph: $y < x - 8$

m =

b =

dotted/solid

shade up/dwn



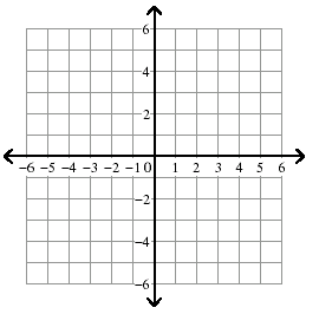
YT 4) Graph: $y \leq -x + 9$

m =

b =

dotted/solid

shade up/dwn



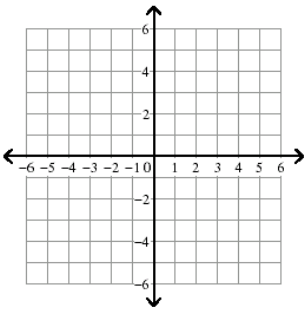
5) Graph: $g(x) \geq \frac{1}{2}x$

m =

b =

dotted/solid

shade up/dwn



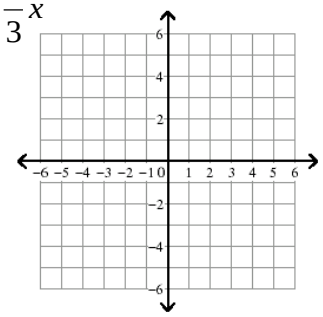
YT 5) Graph: $h(x) > \frac{2}{3}x$

m =

b =

dotted/solid

shade up/dwn



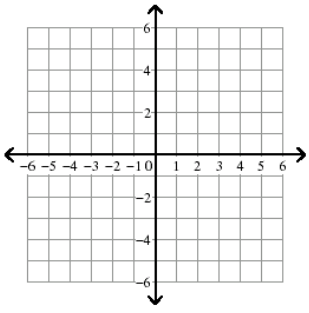
6) Graph: $\frac{1}{2}x - 2y \leq 2$

m =

b =

dotted/solid

shade up/dwn



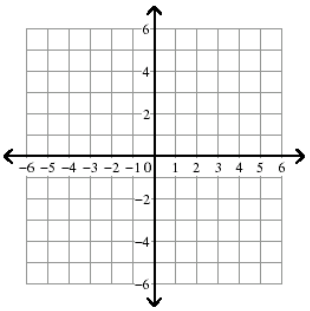
YT 6) Graph: $-y + x > -2$

m =

b =

dotted/solid

shade up/dwn



Homework: Graphing Inequalities Multiple Choice Worksheet… Standardized Test Prep

Ticket Out / Lesson Summary:

Complete the writing prompt… "To graph the inequality y > 2x – 3…"