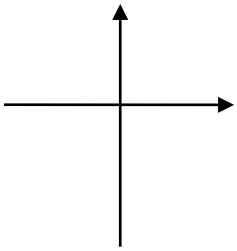
Lesson 2-7 I can graph a Linear Inequality & an Absolute Value Inequality. Date: _____

EX.1 – GRAPHING LINEAR INEQUALITIES

Graph the inequality on the coordinate plane.

a) $y \geq 2x - 3$

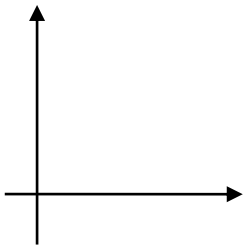
x	y



> Steps for graphing an Inequality
>
> 1. Replace the inequality sign with an equal sign and graph the line. If the inequality has an equal sign, use a solid line otherwise a dashed line.
>
> 2. Pick a point away from the line (either above or below), plug the point into the inequality:
>   - If you get a YES, shade that direction
>   - If you get a NO, shade the other direction

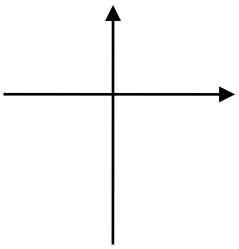
b) $2x + 3y < 12$

x	y



c) $y \geq -3x + 1$

x	y



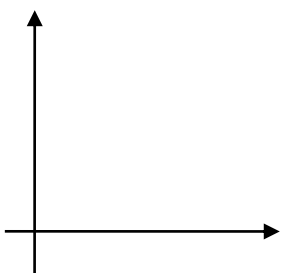
Short Summary #1:

EX.2 - GRAPHING ABSOLUTE VALUE INEQUALITIES

Graph the absolutely value inequality.

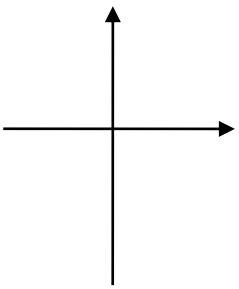
a) $y \leq |x - 3| + 2$

x	y



b) $y \leq |2x| - 1$

x	y

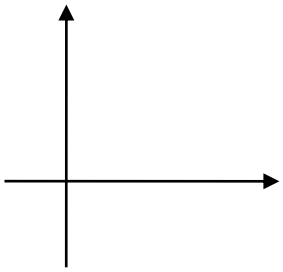


c) $y > -|x + 2| - 3$

x	y

d) $2y + 3 \leq -|x - 5|$

x	y



Short Summary #2:

EX. 3 – APPLICATION – REAL WORLD SITUATIONS

3a. At least 35 performers of the Big Tent Circus are in the grand finale. Some pile into cars, while others balance on bicycles. Seven performers are in each car, and five performers are on each bicycle. Draw a graph showing all the combinations of cars and bicycles possible for the finale.

3b. A restaurant has only 15 eggs to last until the next delivery. An order of scrambled eggs requires 2 eggs. An omelet requires 3 eggs. Write an inequality to model all possible combinations of orders of scrambled eggs and omelets the restaurant can fill until more eggs arrive. Graph the inequality.

3c. An air cargo plane can transport as many as 15 regular shipping containers. One super-size container takes up the space of 3 regular containers.

a. Write an inequality to model the situation

b. Describe the domain and range.

c. Graph the inequality you wrote in part a.

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