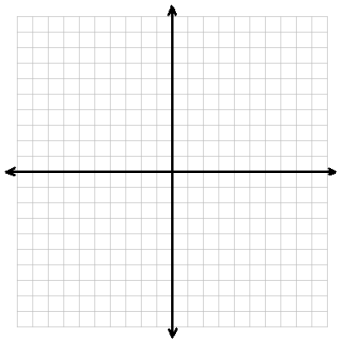
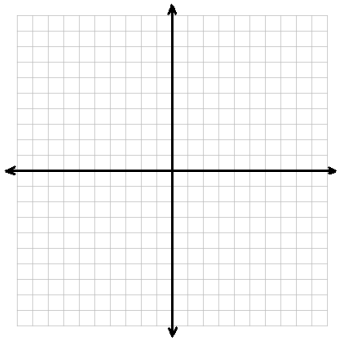
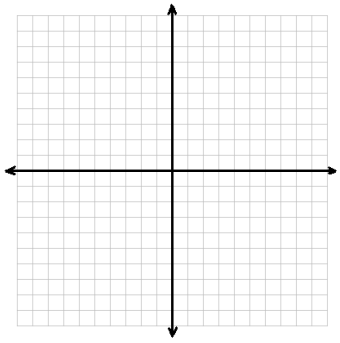
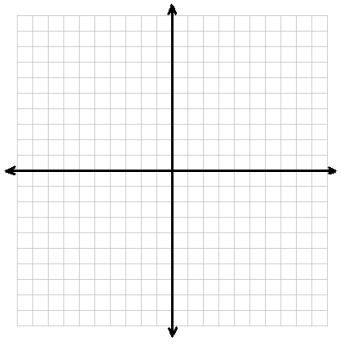
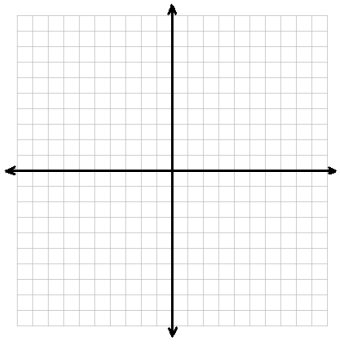
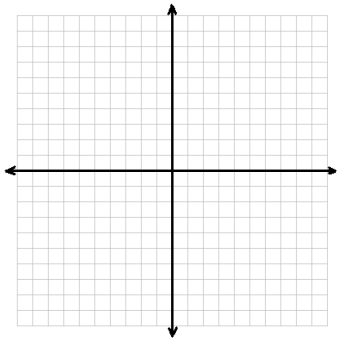
Name: _____ Date: _____ **Unit 3 Class Work**

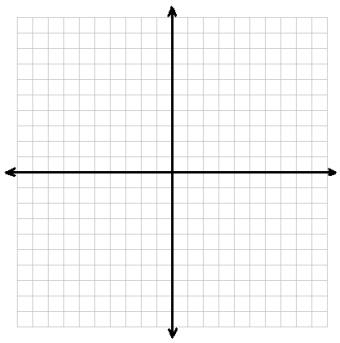
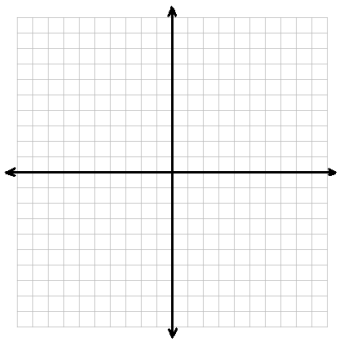
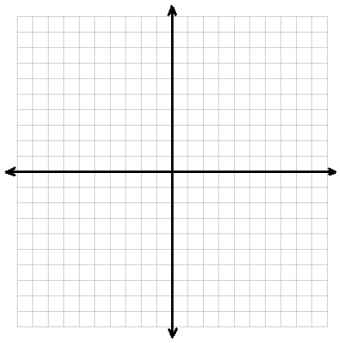
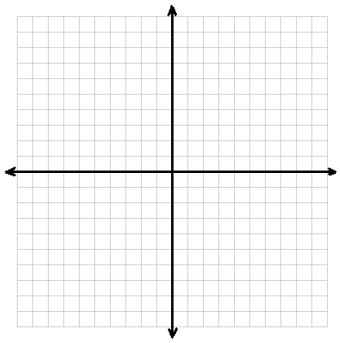
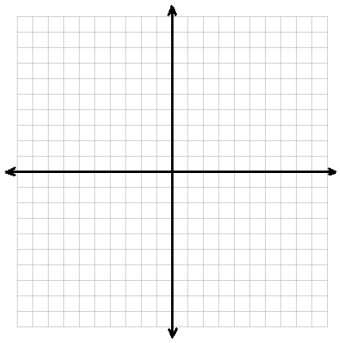
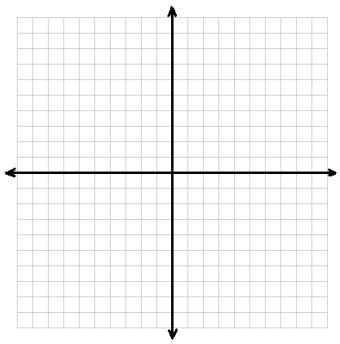
Graphing Inequalities Class Work

Objective: You will be able to graph solution sets to inequalities.

★ Decide if the boundary should be solid or dashed. Graph the relation. Then determine where to shade, and shade. ☺

Practice:

$3y + 2x < -6$ 	$y + 1 \geq -\lvert -3x + 9 \rvert$ 	$y \leq \lvert 2x \rvert + 5$ 
$3y + 4x \geq 9$ 	$4x < 2y - 14$ 	$y + 9 > \frac{1}{2}\lvert x + 1 \rvert$ 

$\frac{1}{2}y \leq -\lvert x - 2\rvert$ 	$-7y \leq -28x + 56$ 	$3y - 9 < 12x$ 
$x < -3$ 	$y + 3 > \lvert x\rvert$ 	$y \leq -7$ 

$\Rightarrow$ For each problem above, state any point that is in the solution set.

Apply it! *(Show all work on a blank piece of paper, and use graph paper to create your graphs.)*

1. A group of students is having a bake sale to raise money for cancer research. The group is going to donate some of their own money in addition to all proceeds from the sale. Each baked good is sold for $2. They want to raise **at least** $100. A. Create and graph an inequality (on graph paper) that the group can use to determine how much money they should donate based on how many baked goods they sell. B. Is the point (20, 30) part of the solution set? If so, what does it represent? C. Is the point (40, 25) part of the solution set? If so, what does it represent?

2. Kyle burns approximately 3 calories per minute during strength training, and 8 calories per minute during cardio. Kyle would like to burn **at least** 96 calories during his workout today. A. Create and graph an inequality (on graph paper) that Kyle can use to determine how much of each exercise he should complete. B. Is the point (10, 10) part of the solution set? If so, what does it represent? C. Choose any point in the solution set and explain what it represents in terms of the context. D. If Kyle runs for 7 minutes, how long will he have to strength train for in order to burn 100 calories?

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Write down any reminder for graphing inequalities.

AND / OR

Write down any questions you have regarding graphing inequalities.

A. Create any linear inequality that could be graphed on the coordinate plane.

B. Create any absolute value inequality that could be graphed on the coordinate plane.

C.

A's & B's switch, and sketch a graph of each inequality.