Lesson 2.8 Warm Up (Marker Boards)

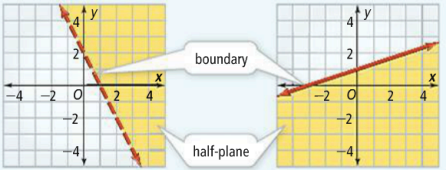
1. Graph $y = -2|x| + 4$

2. Write the equation of the line that goes through the points (5, 4) and (-1, -9).

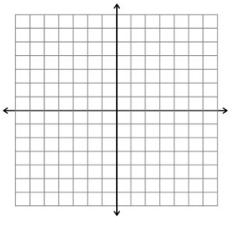
Lesson 2.8 Two-Variable Inequalities

Essential Understanding: Graphing an inequality in two variables is similar to graphing a line. the graph of a linear inequality contains all points on one side of the line and may or may not include the points on the line.

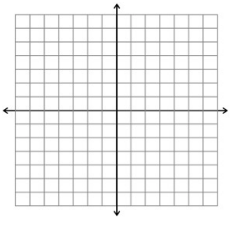
A **linear inequality** is an inequality in two variables whose graph is a region of the coordinate plane bounded by a line. This line is the **boundary** of the graph. The boundary separates the coordinate plane into two **half-planes**, one of which consists of solutions of the inequality.



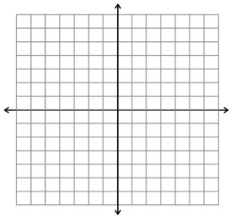
Ex. What is the graph of $y > 3x - 1$?



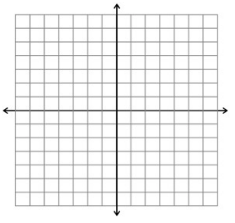
Ex. What is the graph of $y \leq 2x - 1$?



Ex. What is the graph of $y \geq -1/2x + 4$?

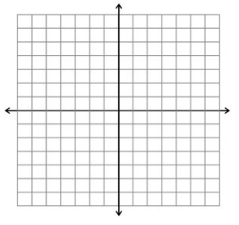


Ex. What is the graph of $2x - 4y > 8$?



Ex. The map shows the number of tickets needed for small or large rides at the fair. You do not want to spend more than $15 on tickets. How many small or large rides can you ride?

Ex. What is the graph of $1 - y < |x + 2|$?



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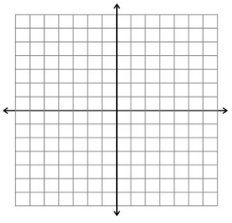
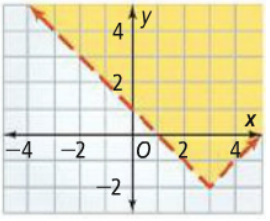
Ex. What is the graph of $y - 4 \geq 2|x - 1|$?



Ex. What inequality does the graph represent?



Ex. What inequality does the graph represent?