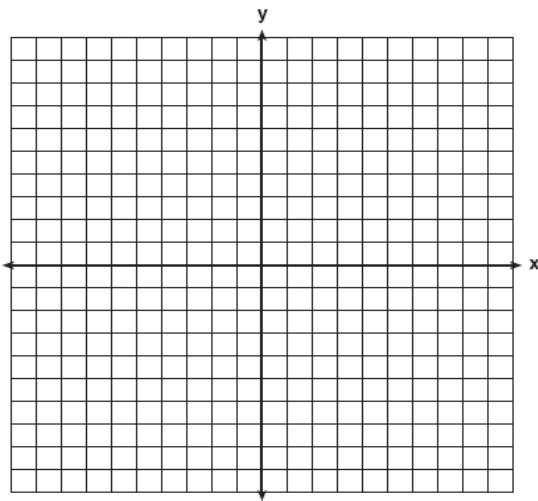Name: Date: Period:
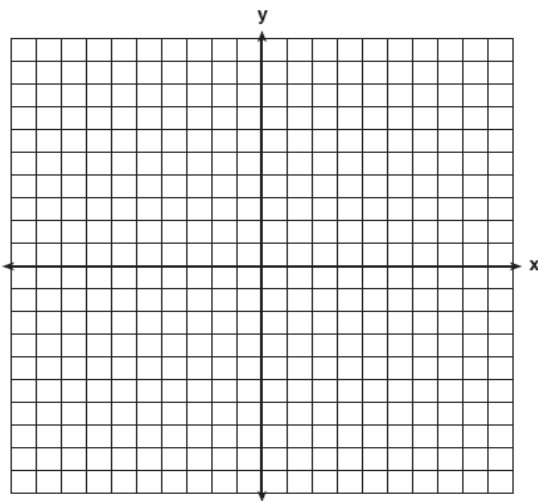
Graph the following absolute value functions using your graphing calculator. For each family of functions, sketch the graph on the coordinate axes system to the left.

$$y = |x|$$
$$y = |x| + 2$$
$$y = |x| + 5$$
$$y = |x| - 8$$

Make a conjecture about this family of functions:

Graph the following absolute value functions using your graphing calculator. For each family of functions, sketch the graph on the coordinate axes system to the left.

$$y = |x|$$
$$y = |x + 1|$$
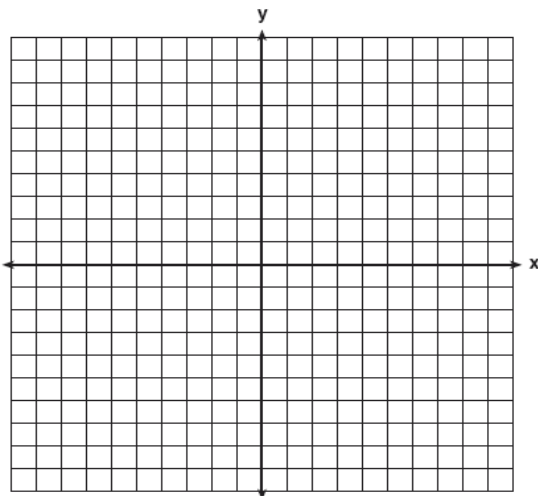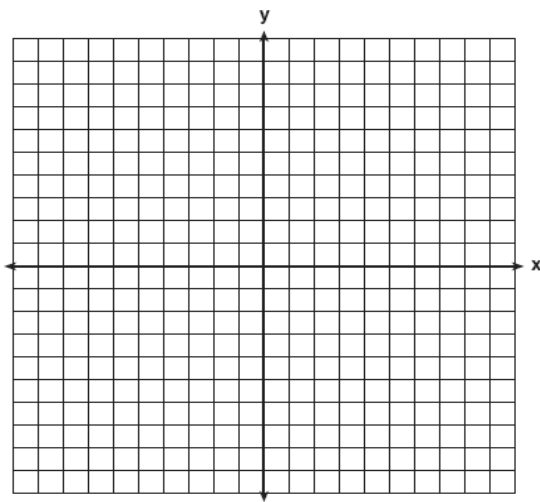$$y = |x + 2|$$
$$y = |x - 3|$$
$$y = |x - 6|$$

Make a conjecture about this family of functions:

Graph the following absolute value functions using your graphing calculator. For each family of functions, sketch the graph on the coordinate axes system to the left.

$$y = |x|$$
$$y = 2|x|$$
$$y = 5|x|$$
$$y = 8|x|$$

Make a conjecture about this family of functions:

Absolute Value Functions Discovery

Graph the following absolute value functions using your graphing calculator. For each family of functions, sketch the graph on the coordinate axes system to the left.

$$y = |x|$$
$$y = \frac{1}{2}|x|$$
$$y = \frac{1}{4}|x|$$

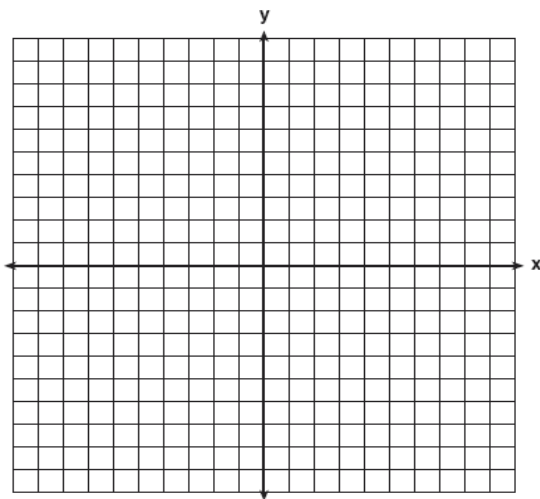Make a conjecture about this family of functions:

Graph the following absolute value functions using your graphing calculator. For each family of functions, sketch the graph on the coordinate axes system to the left.

$$y = |x| + 2$$
$$y = |x + 2|$$

In what ways are these functions different?

1. Predict what the graph of y = |x - 3| + 2 will look like. Explain.

2. Predict what the equation of the graph of y = |x + 4| would be if it is reflected over the x-axis.

If you were asked to tell the story of the following absolute value functions, how would it go?

3. y = -2|x - 5| + 6

Tell the story:

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

Tell the story: