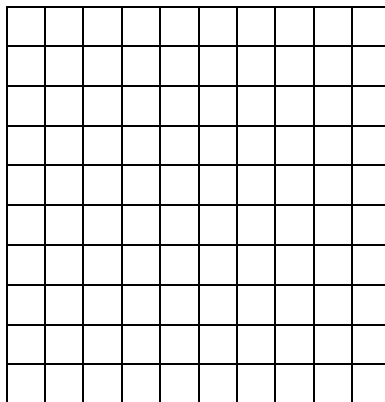# Discovery Activity
Absolute Value Functions & Transformations

The parent function for all absolute value functions is $y = |x|$. Using an input-output table, graph the parent function.
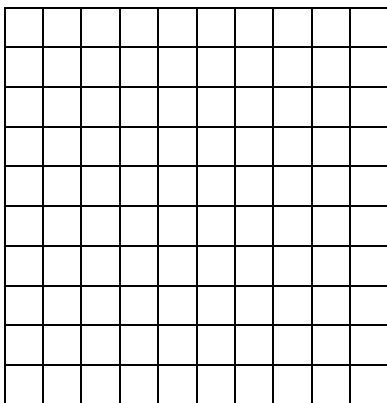
$$y = |x|$$

Observations:

Now take a moment to graph the following absolute value functions. Observe how changes in the function affect the graph.
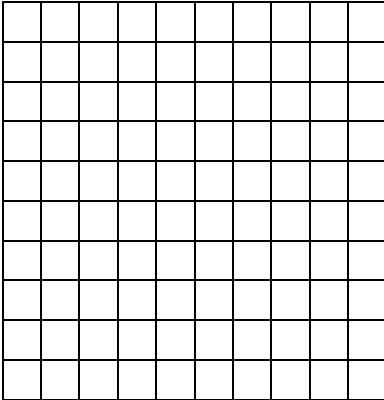
$y = |x| + 1$ $\qquad\qquad\qquad\qquad\qquad\qquad y = |x| - 1$

Observations:

Graph the next two functions just as you did with the previous examples. Observe how the changes in the functions affect the graphs.

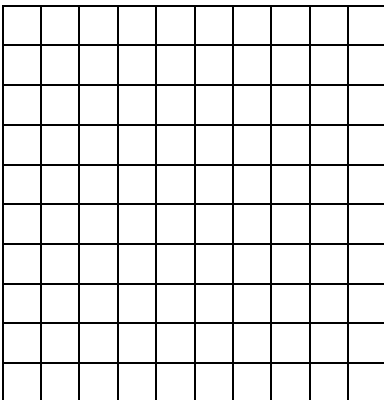$y = |x + 1|$ $y = |x - 1|$

Observations:

Finally, we will examine the effects on the graph when a negative is included in the function. Graph the following examples and observe how the graph changes.

$y = -|x + 1|$ $y = -|x| + 1$

Observations: