

Name: _____

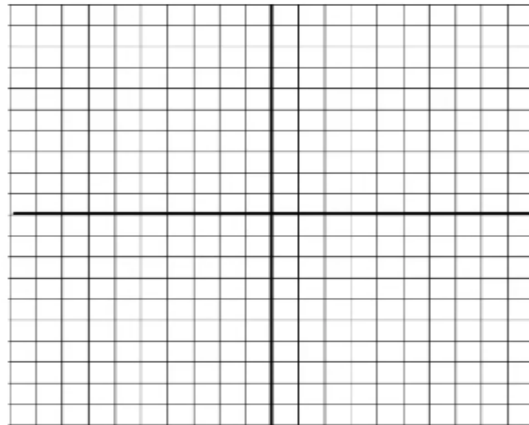
Date: _____

3.7 Graphing Absolute Value Functions

Essential Question: _____

The parent absolute value function is _____. This graph is ____-shaped and symmetric about the y-axis. The _____ is the point where the graph changes _____. The vertex of the graph of _____ is _____. The domain of _____ is _____. The range is _____.

The PARENT function of absolute value functions is $f(x) = |x|$



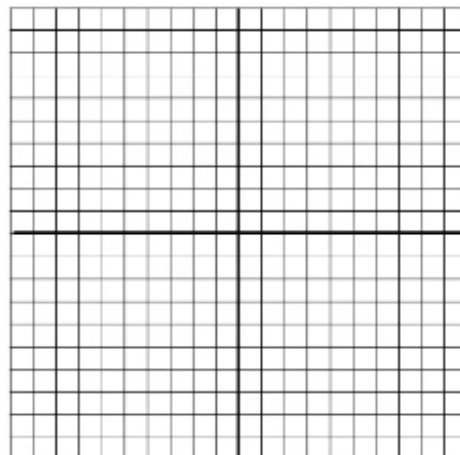
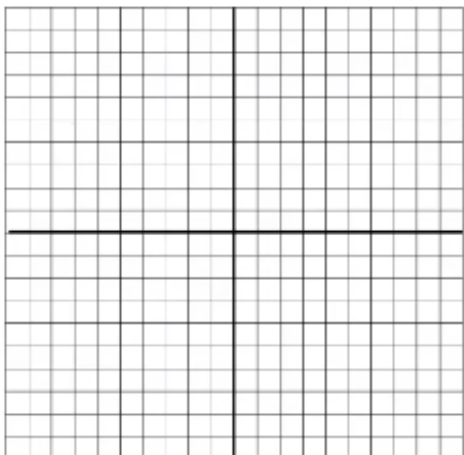
*Please note for the following example, you must write down the domain and the range.

EXAMPLE 1 Graphing $g(x) = |x| + k$ and $g(x) = |x - h|$

Graph each function. Compare each graph to the graph of $f(x) = |x|$. Describe the domain and range.

a. $g(x) = |x| + 3$

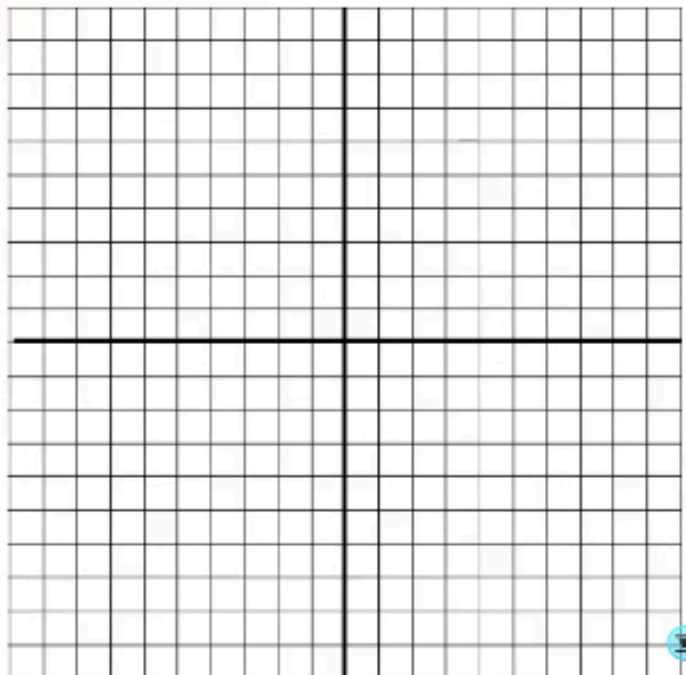
b. $m(x) = |x - 2|$



Graph the function. Compare the graph to the graph of $f(x) = |x|$. Describe the domain and range.

1. $h(x) = |x| - 1$

2. $n(x) = |x + 4|$



Stretching, Shrinking, and Reflecting

EXAMPLE 2 Graphing $g(x) = a|x|$

Graph each function. Compare each graph to the graph of $f(x) = |x|$. Describe the domain and range.

a. $q(x) = 2|x|$

b. $p(x) = -\frac{1}{2}|x|$

