

Name: _____

Date: _____

3.7 PART 2 Graphing Absolute Value Functions

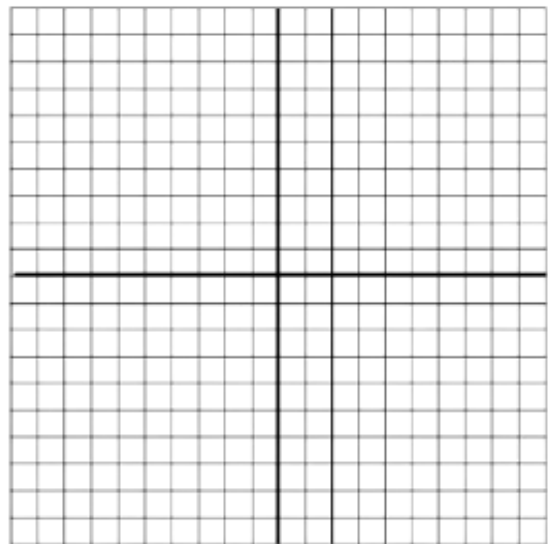
Essential Question How do the values of a , h , and k affect the graph of the absolute value function $g(x) = a|x - h| + k$?

An absolute value function written in the form _____ where a _____, is in _____ form. The vertex of the graph is _____.

If $-h$, then h is _____. If $+h$, then h is _____.

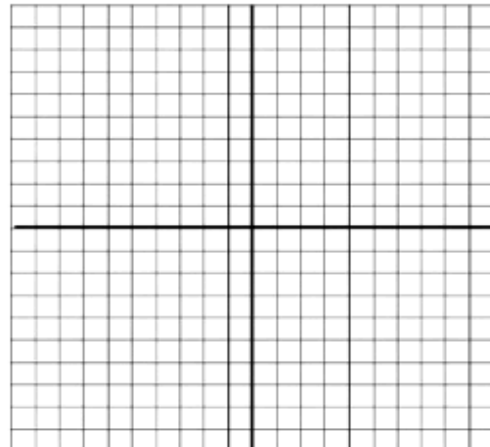
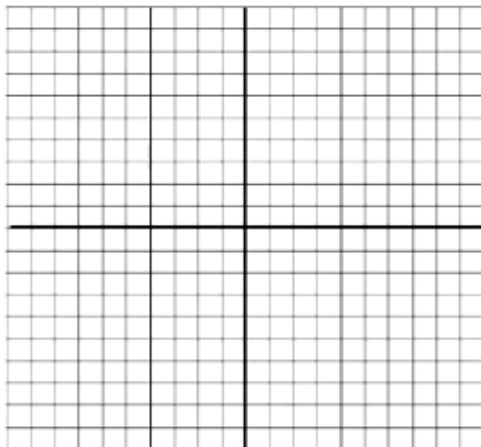
EXAMPLE 3 Graphing $f(x) = |x - h| + k$ and $g(x) = f(ax)$

- Graph $f(x) = |x + 2| - 3$ and $g(x) = |2x + 2| - 3$. Compare the graph of g to the graph of f .



5. Graph $f(x) = |x - 1|$ and $g(x) = \left|\frac{1}{2}x - 1\right|$. Compare the graph of g to the graph of f .

6. Graph $f(x) = |x + 2| + 2$ and $g(x) = |-4x + 2| + 2$. Compare the graph of g to the graph of f .



Combining Transformations

EXAMPLE 4 Graphing $g(x) = a|x - h| + k$

Let $g(x) = -2|x - 1| + 3$. (a) Describe the transformations from the graph of $f(x) = |x|$ to the graph of g . (b) Graph g .

