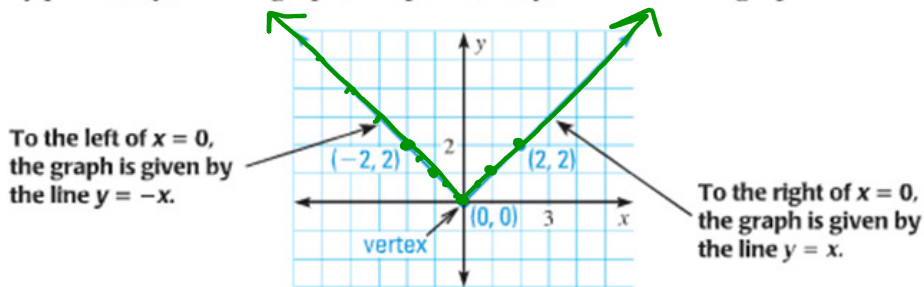


Absolute Value

Parent Function for Absolute Value Functions

The parent function for the family of all absolute value functions is $f(x) = |x|$. The graph of $f(x) = |x|$ is V-shaped and is symmetric about the y-axis. So, for every point (x, y) on the graph, the point $(-x, y)$ is also on the graph.



x	y
-2	2
-1	1
0	0
1	1
2	2



The highest or lowest point on the graph of an absolute value function is called the **vertex**. The vertex of the graph of $f(x) = |x|$ is $(0, 0)$.

vertex: $y = |x|$
 $(0, 0)$

vertex: $y = |x - 2| + 4$
 $(0, 0) \rightarrow (2, 4)$
 2 right, 4 up

vertex: $y = |x + 3| - 2$
 $(0, 0) \rightarrow (-3, -2)$
 3 left, 2 down

$f(x) = |x - h| + k$
 h units right
 k units up

