SM 2

Date: **Section:** 1.4

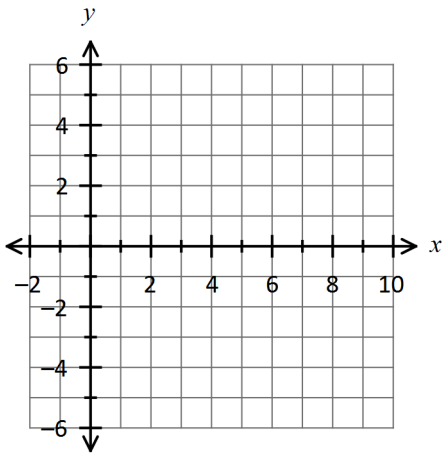
Objective: Learn what the graphs of important ***parent functions*** look like and what points they go through. Learn how ***transforming*** the equation changes the graph.

Parent Graphs - Fill in the table to find some **key points** for some important graphs. Use the table to generate ordered pairs for points on the graph, then sketch the graph.

★ **Square Root Function:** $f(x)=\sqrt{x}$

Domain:_____ Range:_____

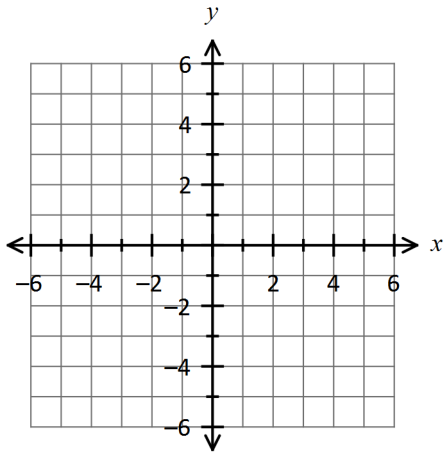
x	y	Point
–1		
0		
1		
4		
9		



★ **Absolute Value Function:** $f(x)=|x|$

Domain:_____ Range:_____

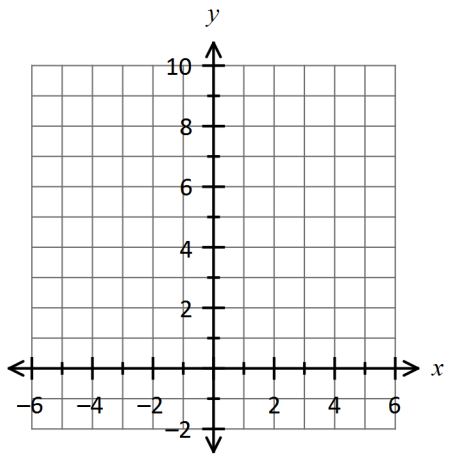
x	y	Point
–2		
–1		
0		
1		
2		



★ **Quadratic Function:** $f(x) = x^2$

Domain:_____ Range:_____

x	y	Point
–2		
–1		
0		
1		
2		



Transformations of the parent graph:

	$f(x) = \lvert x \rvert$	$f(x) = x^2$	$f(x) = \sqrt{x}$	Effect on Parent Graph
$y = -f(x)$				
$y = 2f(x)$				
$y = \frac{1}{2} f(x)$				
$y = f(x) + 2$				
$y = f(x) - 2$				
$y = f(x+2)$				
$y = f(x-2)$				