2-1 Parent Functions

Objectives:

2-1a: I can identify and graph linear, absolute value, quadratic, cubic, and exponential parent functions.

2-1b: I can determine and apply attributes such as: domain, range, increasing, decreasing, max, min, and end behavior from a function.

Aug 11-11:13 AM

Domain & Range

Domain: x-values - input

         read x's from left to right (smallest to largest)

*some functions have domain restrictions

can't have a neg. # in a sq. root

to find: set the radicand ≥ 0 and solve for x.

Range: y-values - output

         read y's from bottom to top (smallest to largest)

Aug 20-8:54 PM

Increasing, Decreasing and Constant

- <u>Increasing</u>: as you move from left to right the y-values increase
- <u>Decreasing</u>: as you move from left to right the y-values decrease
- <u>Constant</u>: as you move from left to right the y-values do not change

this behavior is reported using interval notation for the **X-VALUES** where the graph has a certain behavior

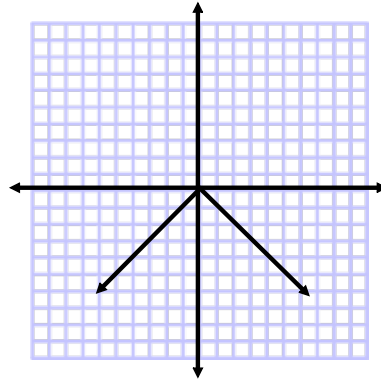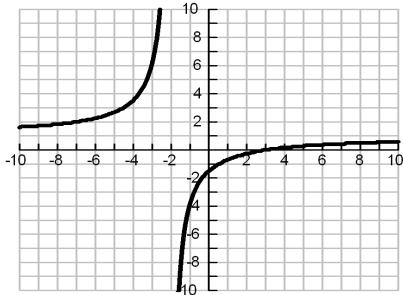Aug 11-8:59 AM

Extrema

Maximums:

Minimums:

Ordered Pairs!

Aug 12-7:12 PM

Limits

Describe end behavior:

as x approaches _____, y approaches _____

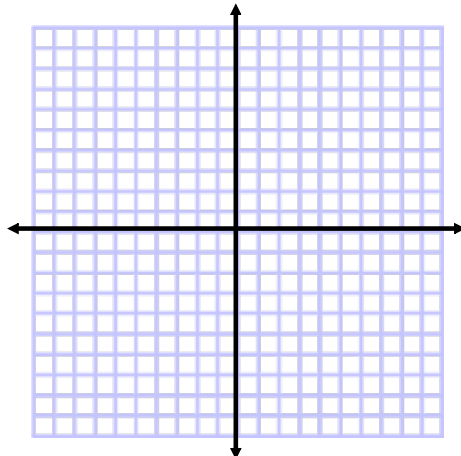can be written as $X \rightarrow$ ___, $y \rightarrow$ ___

Nov 3-9:50 AM

Linear

x	y
0	
1	
2	
-1	
-2	

Equation: $f(x) = x$

Domain:

Range:
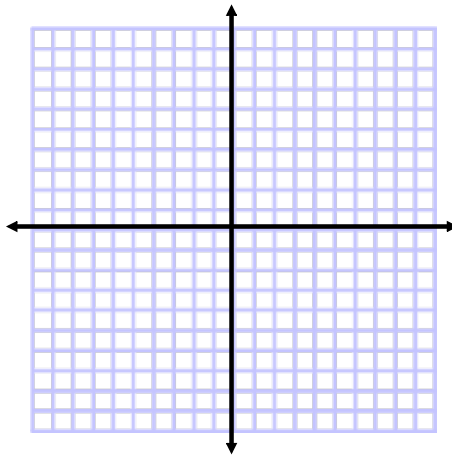
Increasing:

Decreasing:

Max:

Min:

Left End Behavior:

Right End Behavior:

May 31-1:32 PM

Absolute Value

x	y
0	
1	
2	
-1	
-2	

Equation: $f(x) = |x|$

Domain:

Range:
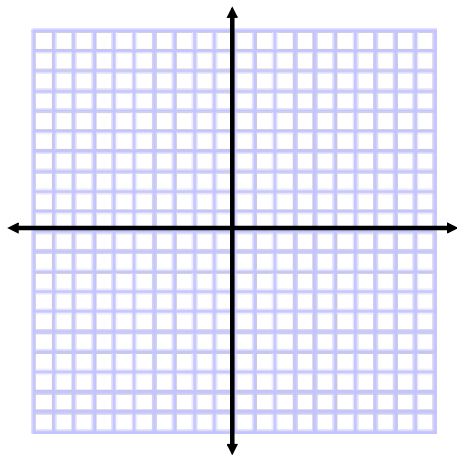
Increasing:

Decreasing:

Max:

Min:

Left End Behavior:

Right End Behavior:

May 31-2:43 PM

Quadratic

x	y
0	
1	
2	
-1	
-2	

Equation: $f(x) = x^2$

Domain:

Range:
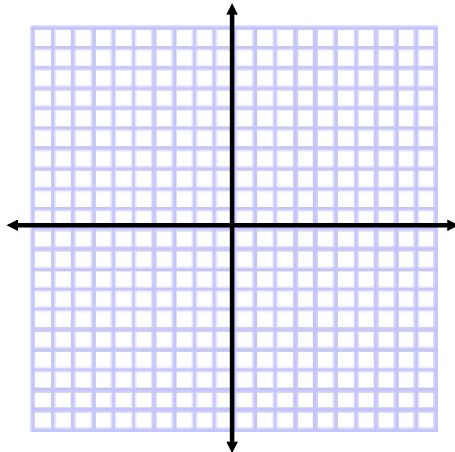
Increasing:

Decreasing:

Max:

Min:

Left End Behavior:

Right End Behavior:

May 31-2:44 PM

Cubic

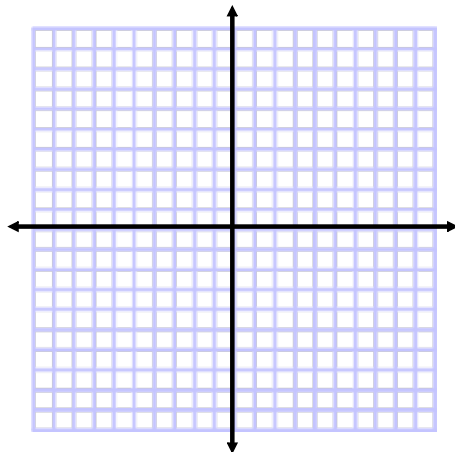| x	y
0	
1	
2	
-1	
-2	

Equation: $f(x) = x^3$

Domain:

Range:

Increasing:

Decreasing:

Max:

Min:

Left End Behavior:

Right End Behavior:

May 31-2:48 PM

Exponential

x	y
0	
1	
2	
3	
-1	

Equation: $f(x) = 2^x$

Domain:

Range:

Increasing:

Decreasing:

Max:

Min:

Left End Behavior:

Right End Behavior:

May 31-2:49 PM