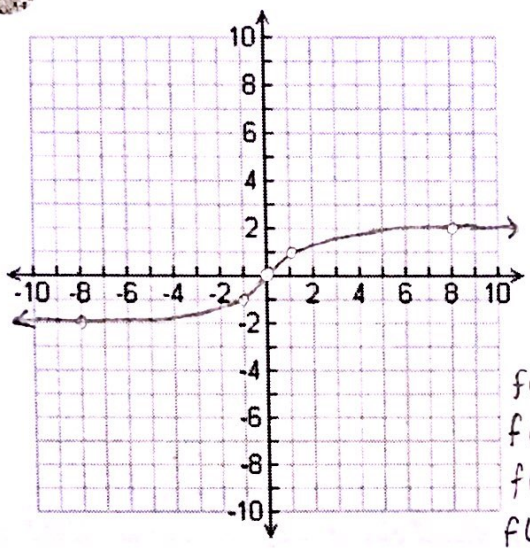
Day 7, Day Of Assignment: Parent Function Investigation for Cube root functions.

Parent Function: $f(x) = \sqrt[3]{x}$

★ must use negative x-values also!



$f(x) = \sqrt[3]{x}$

x	f(x)
-8	-2
-1	-1
0	0
1	1
8	2

$f(-8) = \sqrt[3]{-8} = -2$

$f(-1) = \sqrt[3]{-1} = -1$

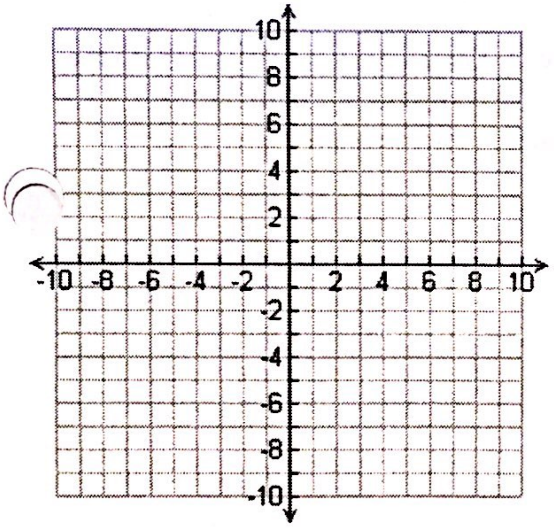
$f(0) = \sqrt[3]{0} = 0$

$f(1) = \sqrt[3]{1} = 1$

$f(8) = \sqrt[3]{8} = 2$

★ perfect cubes: -64, -27, -8, -1, 0, 1, 8, 27, 64.

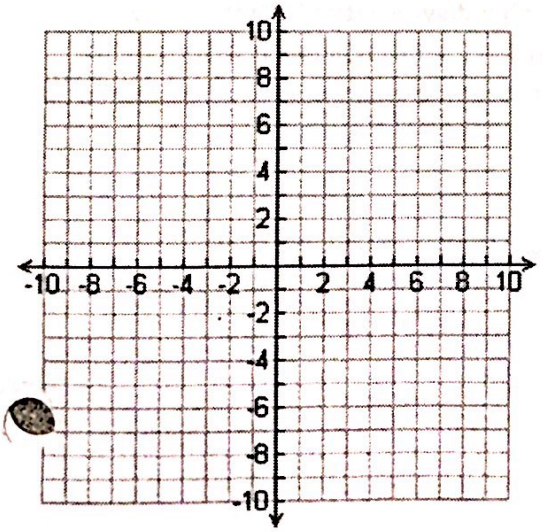
Describe the graph: This graph looks like a stretched-out or flattened "S" shape. It changes direction at the origin (0,0) and continues out towards infinity in both directions. As x increases by the next perfect cube, the f(x)/y-values increase by 1 (going from smallest to largest). The domain (x-values) is $-\infty < x < \infty$ or $(-\infty, \infty)$ and the range is $-\infty < y < \infty$ or $(-\infty, \infty)$.



$f(x) = -\sqrt[3]{x}$

x	f(x)

Describe the graph. How is it different than the parent function? Where do you see the difference in the equation? Table? Graph?



$f(x) = \sqrt[3]{x} + 4$

x	f(x)

Describe the graph. How is it different than the parent function? Where do you see the difference in the equation? Table? Graph?