Unit 9 Day 9 Notes on Graphing Radicals

The Parent Function: $y = \sqrt{x}$

what makes sense here?

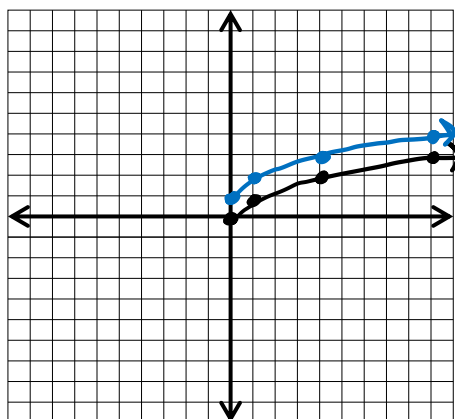| x	y
0	0
1	1
4	2
9	3
16	4
25	5
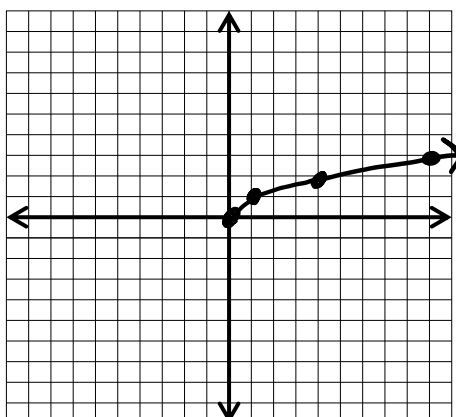
Key Features

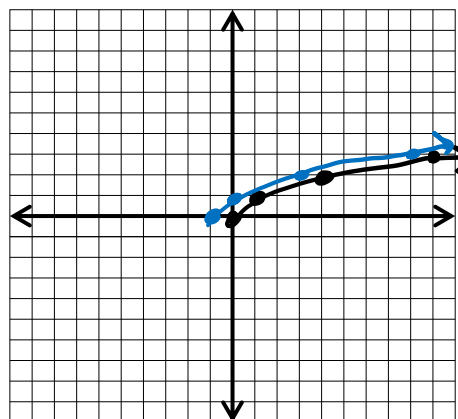Domain: $X \geq 0$ / $[0, \infty)$

Range: $Y \geq 0$ / $[0, \infty)$

Let's Practice … Graphing with TRANSFORMATIONS
(#1-4) Identify the transformations taking place on the parent function. Then, graph the transformed function. Include at least four accurate points.
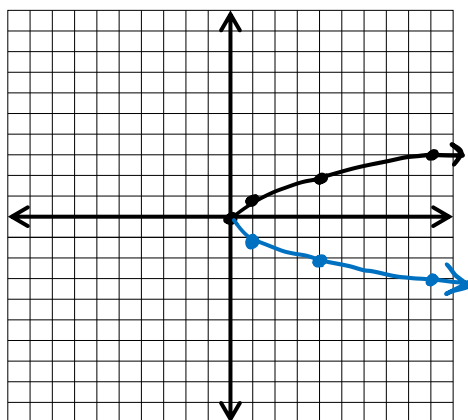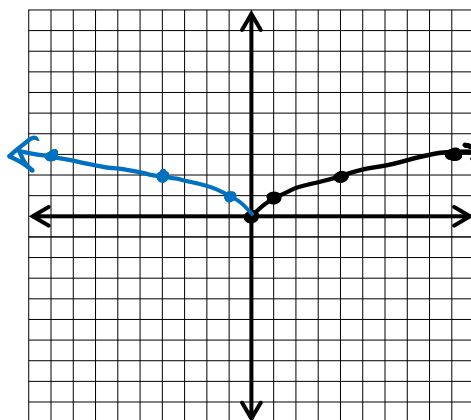
1. $y = \sqrt{x} + 1$ UP 1

2. $y = \sqrt{x+1}$ LEFT 1
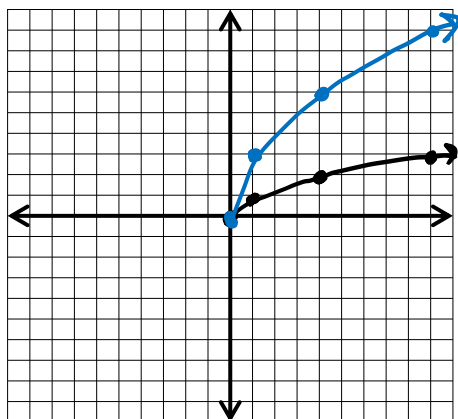
3. $y = -\sqrt{x}$ REFLECTION OVER X-AXIS

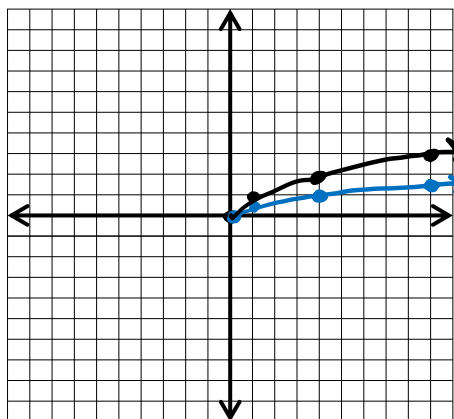4. $y = \sqrt{-x}$ REFLECTION OVER Y-AXIS
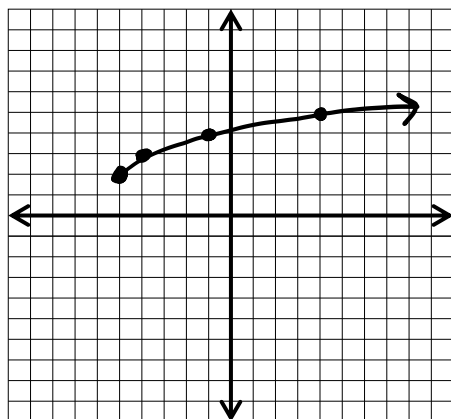
5. $y = 3\sqrt{x}$ VERTICAL STRETCH BY 3

6. $y = \frac{1}{2}\sqrt{x}$ VERTICAL SHRINK BY $\frac{1}{2}$

Challenge!

Write a square root function that has a domain of $[-5, \infty)$ and a range of $[2, \infty)$. Hint: use a graph to help!

LEFT 5
UP 2

$$y = \sqrt{x+5} + 2$$