2.1 Radical Functions and Transformations:

Radical Notation:

$\sqrt[n]{a}$ is the (principle) n^{th} root of a.

a is the **radicand**

n is the **index** (or order) of the radical

Example: Solve to 3 decimal places

1.) $x^2 = 4$

2.) $x^5 = -8$

3.) $x^{32} = -4$

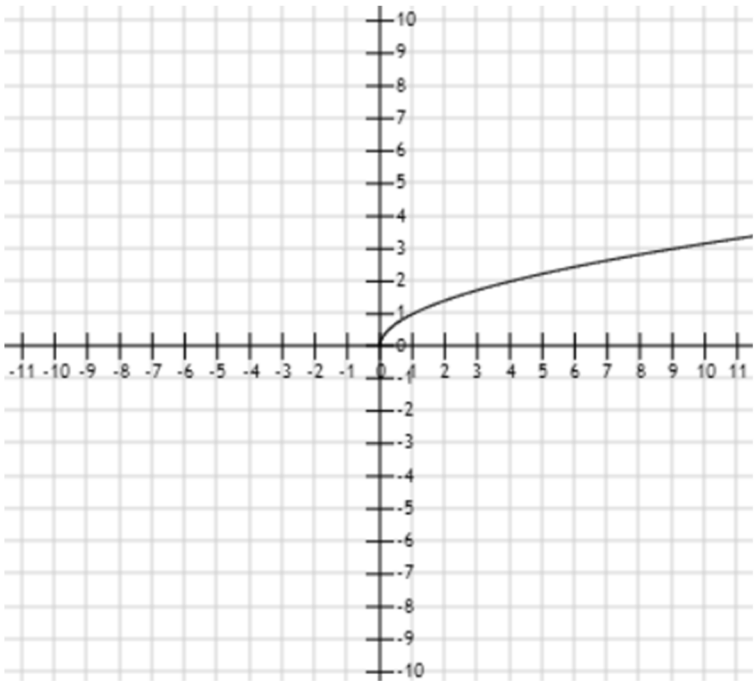
Graphing Radicals in the form $y = a\sqrt{b(x - c)} + d$

Note: Consider the key points of a $y = \sqrt{x}$ function

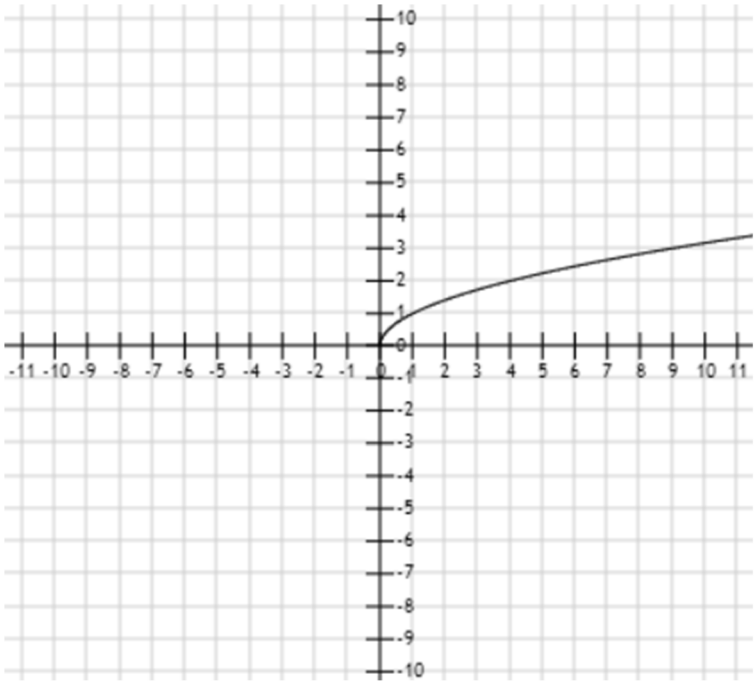
x	*y*
0	
1	
4	
9	

Example: Graph and state the transformation:

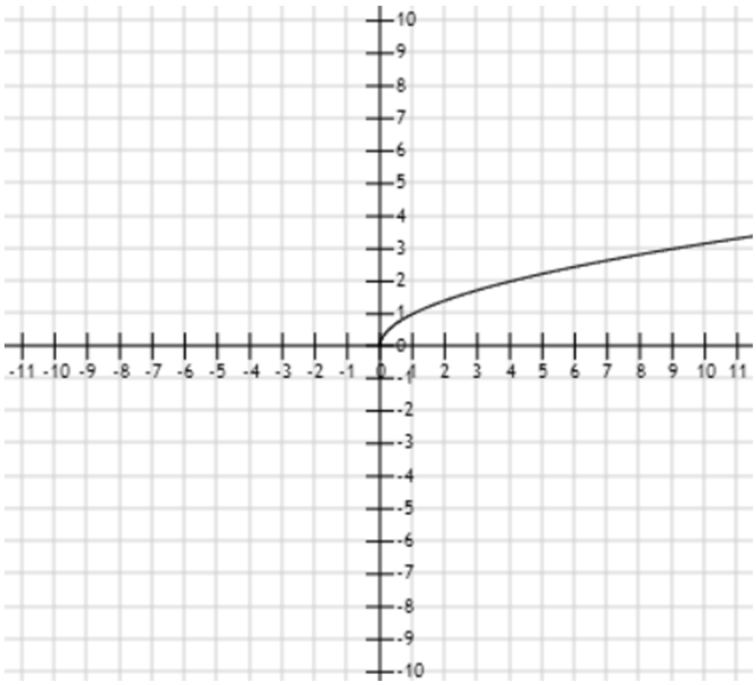
a.) $y = \sqrt{x}$ and $y = \sqrt{x + 2} - 1$



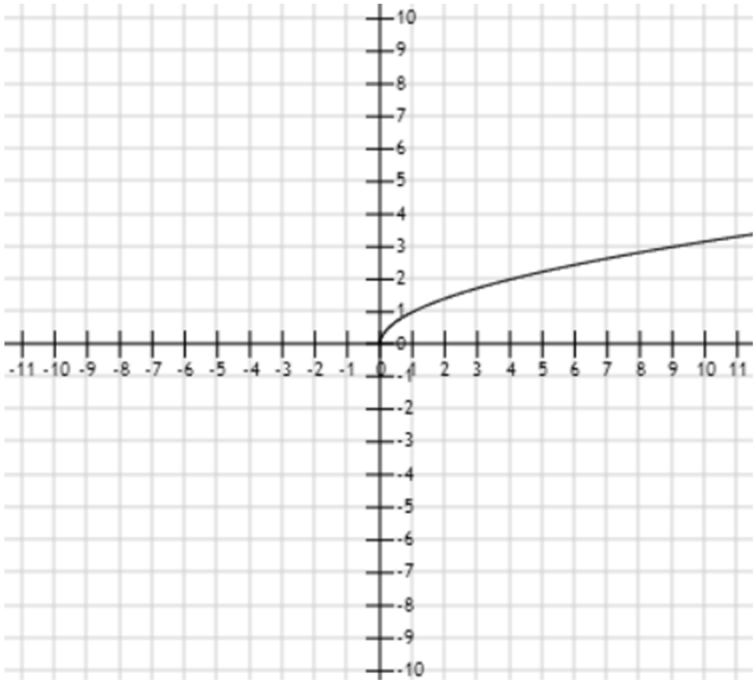
b.) $y = \sqrt{x}$ and $y = -3\sqrt{x}$



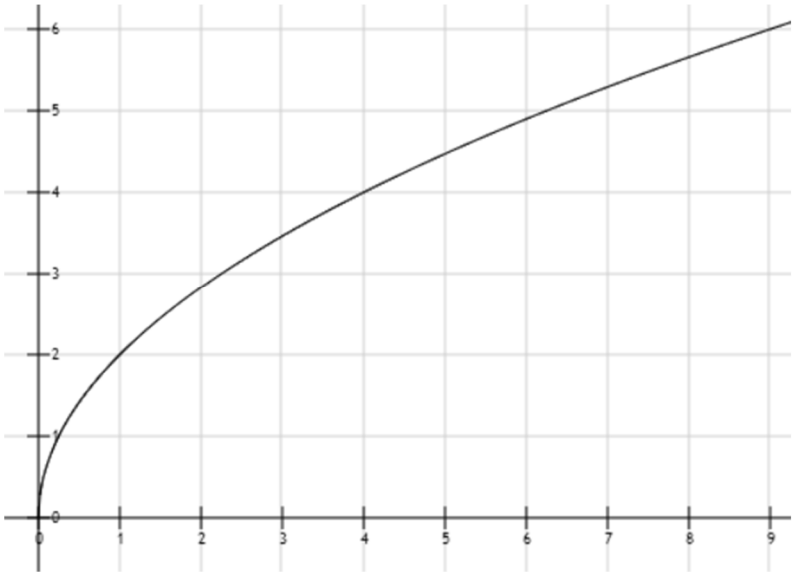
c.) $y = \sqrt{x}$ and $y = \sqrt{2x + 6}$



d.) $y = \sqrt{x}$ and $y = 3\sqrt{4x - 2} + 1$



Determine a Radical Function from a Graph:



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