

Square Root Functions

The parent function of a square root function is $y = \sqrt{x}$ (sometimes written $y = x^{\frac{1}{2}}$). A sample square root function (not $y = \sqrt{x}$) is sketched below.

1. Graph the function $y = \sqrt{x}$ and sketch it here:

2. Identify the domain for this function.

3. Identify the range for this function.

4. Find the x-intercept: _____

5. Find the y-intercept: _____

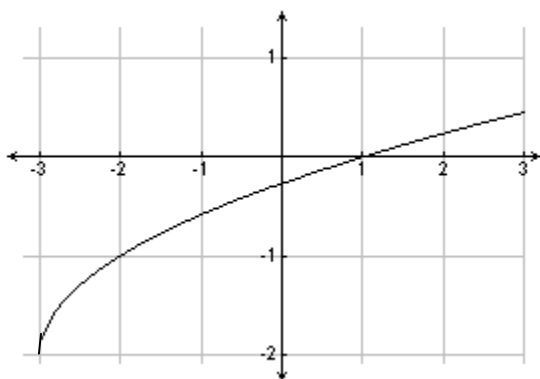
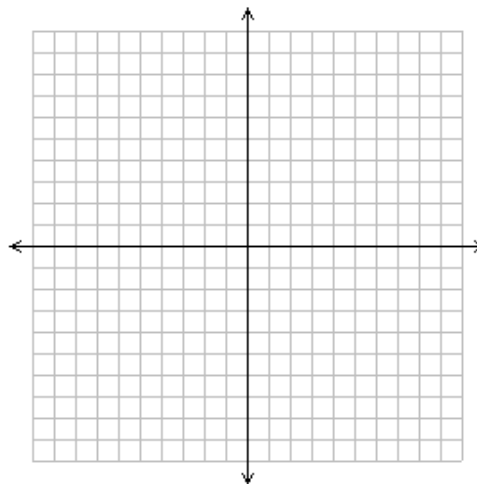


Fig.1

6. Identify a reasonable domain for the function in Fig. 1: _____

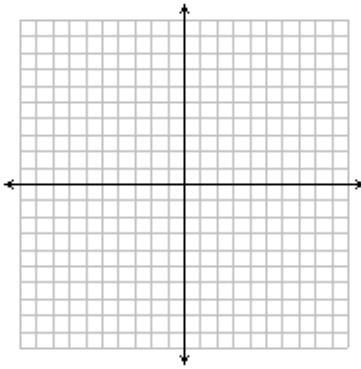
7. Identify a reasonable range for this function: _____

8. Is there an x-intercept? If yes, what is it? _____

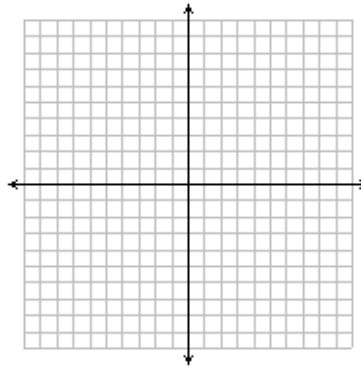
9. What is the y-intercept? _____

Graph of the graphs of the following equations on your calculator, then sketch them in the grids provided and use these graphs to answer 10-13:

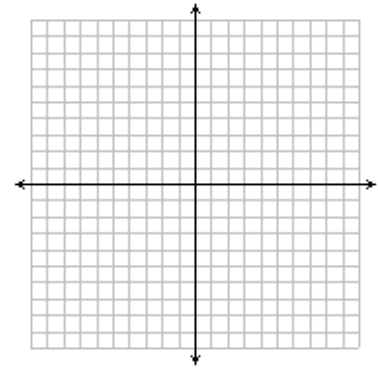
a. $y = 2\sqrt{x}$



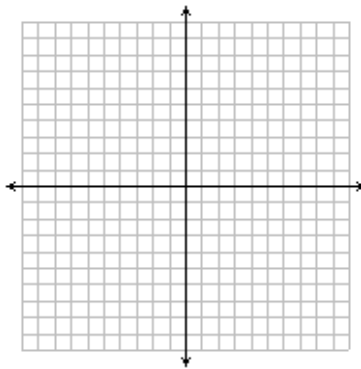
b. $y = 5\sqrt{x}$



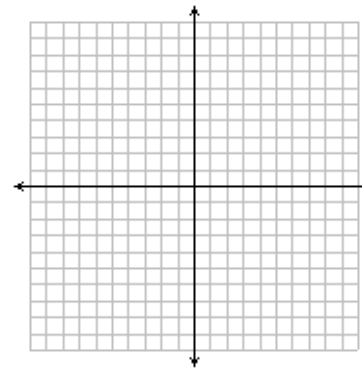
c. $y = \sqrt{x} + 1$



d. $y = \sqrt{x-2}$



e. $y = -\sqrt{x}$



10. How does changing the number in front of the " \sqrt{x} " affect the graph?

11. How does adding/subtracting a number inside the " \sqrt{x} " affect the graph?

12. How does adding/subtracting a number outside the " \sqrt{x} " affect the graph?

13. Now compare the graphs of $y = \sqrt{x}$ and $y = \sqrt{x-2} + 1$. What is different and what is the same about the two graphs?
