

Algebra 1
Lesson 10.5
Graphing Square Root
Functions

Goal: to graph and translate the graphs of square root functions.

Graph the function:

$$y = \sqrt{x}$$

x	y
-2	
-1	
0	0
1	1
2	1.4
3	1.7
4	2

Graph the function:

$$y = \sqrt{x}$$

Domain: $x \geq 0$

When looking at square root functions, we have to eliminate the possibility for the radicand to be a negative, which restricts the domain. To find the domain, the radicand must be greater than or equal to 0.

Find the domain.

$$y = 3\sqrt{2x - 10}$$

$2x - 10 \geq 0$
 $+10 \quad +10$
 $2x \geq 10$
 $x \geq 5$

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

$-2x + 5 \geq 0$
 $-2x \geq -5$
 $x \leq 2.5$

x	y
2.5	0
1	1.7
0	2.2
-1	

Graph the following on the same axis.

$$y = \sqrt{x}$$

$$y = \sqrt{x} + 3$$

↑
3

Based on what you know about transformations, graph the following.

$y = \sqrt{x + 3}$

$y = \sqrt{x - 2}$

Make a table to graph the following:

$y = \sqrt{3x}$

x	y
0	0
1	1.7
2	2.4
3	3
4	3.5

Graph the following based on transformations.

$y = \sqrt{x + 1} - 2$

D: $x + 1 \geq 0$
 $x \geq -1$

D: $x \geq -1$

Hwk: pg 642 - 643
 #8, 12, 20, 24, 26 - 30 all,
 34, 54, 58