

# Graphing Square Root Functions Assignment

Identify the domain and range of each function.

1.  $y = \sqrt{x - 6}$

Domain

Range

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

Domain

Range

3.  $y = \sqrt{x} + 10$

Domain

Range

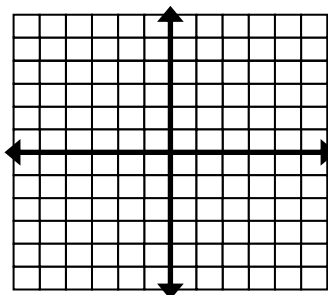
4.  $y = \sqrt{x - 2} + 4$

Domain

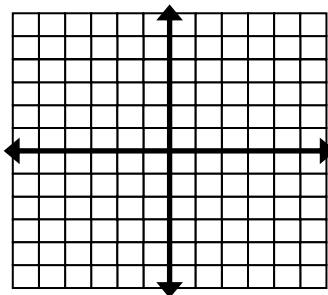
Range

Graph square root function.

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

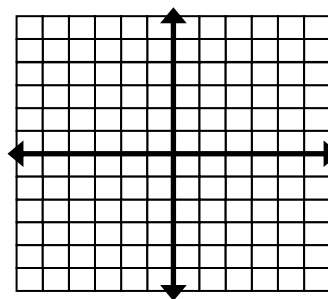


6.  $y = \sqrt{x - 1} - 5$

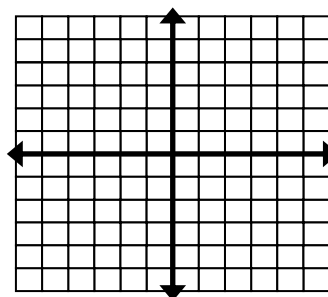


# Graphing Square Root Functions Assignment

7.  $y = \sqrt{x} - 4$



8.  $y = \sqrt{x + 5}$



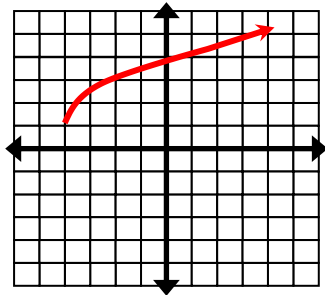
Use the description to write the square root function  $g(x)$ .

9. The parent function  $f(x) = \sqrt{x}$  is reflected across the x-axis, and translated up 3 units.
10. The parent function  $f(x) = \sqrt{x}$  is translated down 8 units and right 4 units.
11. The parent function  $f(x) = \sqrt{x}$  is reflected across the x-axis, and translated down 3 units and left 4 units.
12. The parent function  $f(x) = \sqrt{x}$  is reflected across the x-axis, and translated up 10 units.

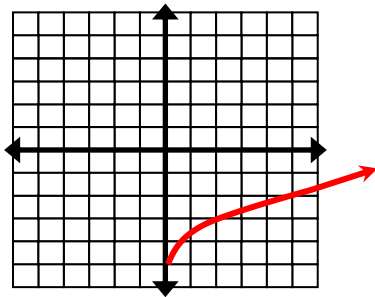
# Graphing Square Root Functions Assignment

Use the graph shown as a guide, write the equation and describe the transformation.

13.



14.



Graph function and identify its domain and range.

15.  $y = 2\sqrt{x+1}$

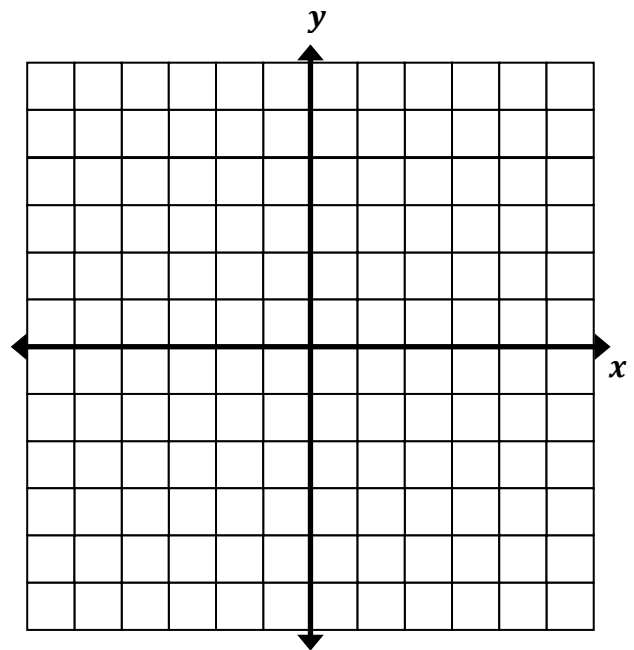
- 1.
2. Table

x	y

3. Graph

4. Domain

Range



# Graphing Square Root Functions Assignment

16.  $y = \sqrt{x + 2} - 2$

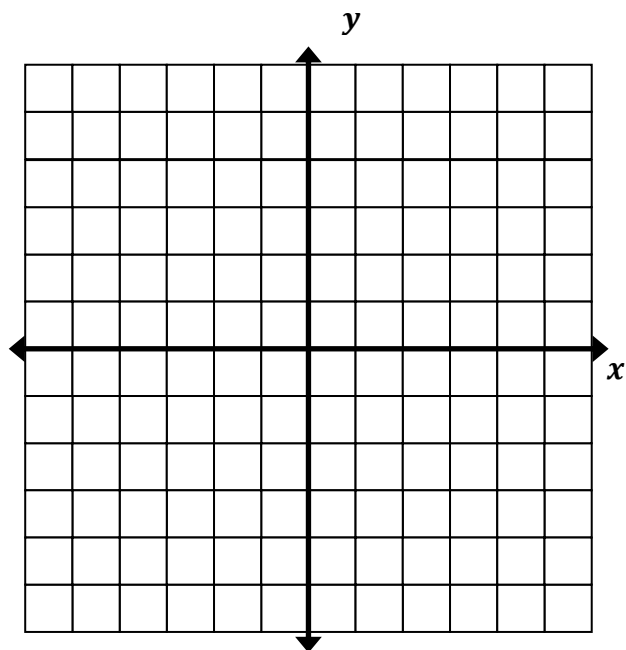
- 1.
2. Table

x	y

3. Graph

4. Domain

Range



# Graphing Square Root Functions Assignment

## ANSWERS

Identify the domain and range of each function.

1.  $y = \sqrt{x - 6}$

Domain  
 $x - 6 \geq 0$   
 $x \geq 6$   
**D:  $[6, \infty)$**

Range  
 **$y \geq 0$**   
**R:  $[0, \infty)$**

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

Domain  
 $x \geq 0$

**D:  $[0, \infty)$**

Range  
 **$y \geq 2$**

**R:  $[2, \infty)$**

3.  $y = \sqrt{x} + 10$

Domain  
 $x \geq 0$

**D:  $[0, \infty)$**

Range  
 **$y \geq 10$**

**R:  $[10, \infty)$**

4.  $y = \sqrt{x - 2} + 4$

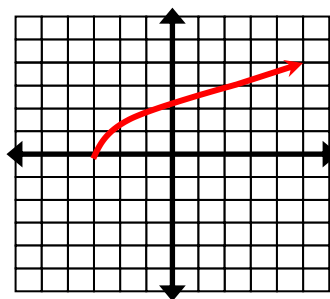
Domain  
 $x - 2 \geq 0$   
 $x \geq 2$   
**D:  $[2, \infty)$**

Range  
 **$y \geq 4$**

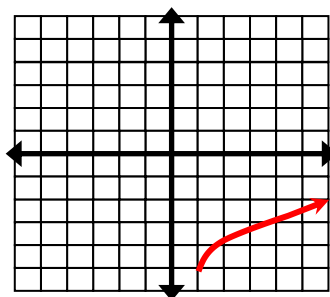
**R:  $[4, \infty)$**

Graph square root function

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

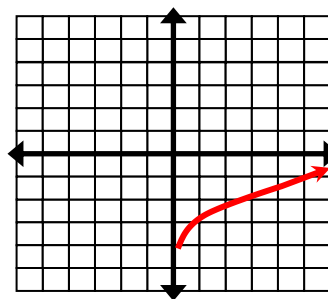


6.  $y = \sqrt{x - 1} - 5$

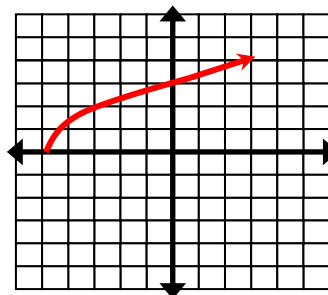


# Graphing Square Root Functions Assignment

7.  $y = \sqrt{x} - 4$



8.  $y = \sqrt{x + 5}$



Use the description to write the square root function  $g(x)$ .

9. The parent function  $f(x) = \sqrt{x}$  is reflected across the x-axis, and translated up 3 units.

$$g(x) = -\sqrt{x} + 3$$

10. The parent function  $f(x) = \sqrt{x}$  is translated down 8 units and right 4 units.

$$g(x) = \sqrt{x - 4} - 8$$

11. The parent function  $f(x) = \sqrt{x}$  is reflected across the x-axis, and translated down 3 units and left 4 units.

$$g(x) = -\sqrt{x + 4} - 3$$

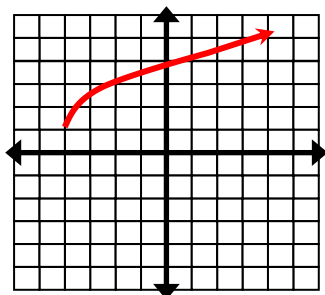
12. The parent function  $f(x) = \sqrt{x}$  is reflected across the x-axis, and translated up 10 units.

$$g(x) = -\sqrt{x} + 10$$

# Graphing Square Root Functions Assignment

Use the graph shown as a guide, write the equation and describe the transformation.

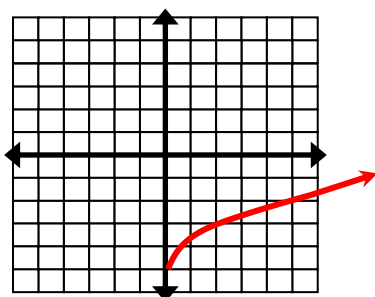
13.



$$g(x) = \sqrt{x + 4} + 1$$

The parent function  $f(x) = \sqrt{x}$  is translated up 1 unit and left 4 units.

14.



$$g(x) = \sqrt{x} - 5$$

The parent function  $f(x) = \sqrt{x}$  is translated down 5 units

Graph function and identify its domain and range.

15.  $y = 2\sqrt{x + 1}$

5. Horizontal Shift: Left 1, No Vertical Shift
6. Table

x	y
-1	0
0	2
3	4
4	4.47
6	5.30

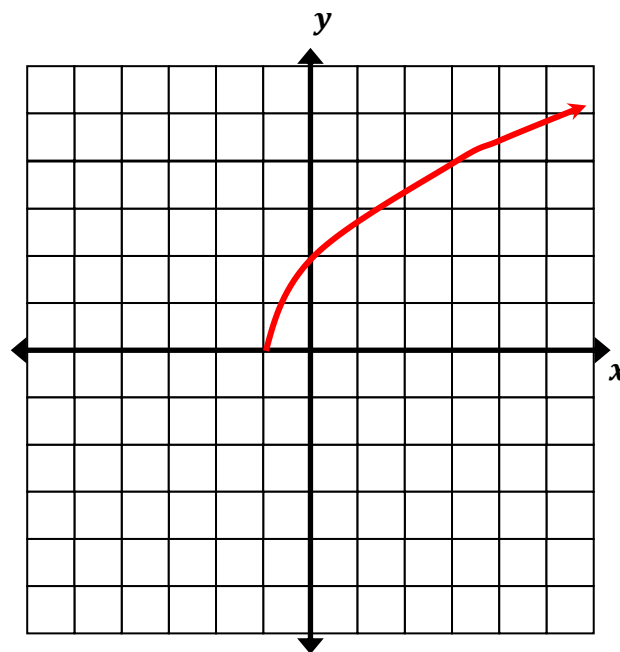
7. Graph

8. Domain
 
$$x + 1 \geq 0$$

$$x \geq -1$$

$$D: [-1, \infty]$$

- Range
- $$y \geq 0$$
- $$R: [0, \infty]$$



# Graphing Square Root Functions Assignment

16.  $y = \sqrt{x+2} - 2$

5. Horizontal Shift: Left 2, Vertical Shift: Down 2

6. Table

x	y
-2	-2
0	-0,58
2	0
4	0,45
6	0,82

7. Graph

8. Domain

$$x + 2 \geq 0$$

$$x \geq -2$$

$$D: [-2, \infty]$$

Range

$$y \geq -2$$

$$R: [-2, \infty]$$

