

Transformation Homework

1. Complete the table below for the function $y = \sqrt{x}$. Graph these points in the center of one sheet of graph paper and draw a smooth curve through them.

x	y
0	
1	
4	
9	
16	

Each of the functions below uses $y = \sqrt{x}$ as its parent function. Draw each function on the same graph as Problem 1. Write the problem number by each curve.

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

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

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

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

6. $y = 1 + \sqrt{x + 4}$

7. The point (4,2) is on the original graph $y = \sqrt{x}$. Find the new coordinates of this point after the function has been transformed as shown below.

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

b. $y = \sqrt{x - 8}$

c. $y = \sqrt{x + 1} - 4$

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

e. $y = -\sqrt{x + 5}$

8. Using the parent function $y = \sqrt{x}$, write the equation of the function for the following transformations.

a. Move the function up 7 units

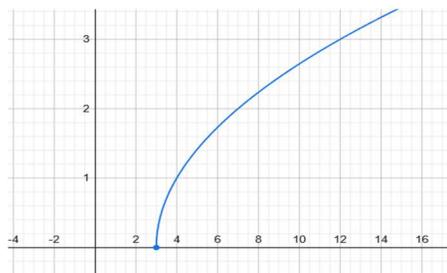
b. Move the function left 3 and up 5

c. Flip the function over the x axis and move it down 2

d. Flip the function over the x axis, move it up 11 units, and to the right 4 units

9. Both of these functions are based on $y = \sqrt{x}$. Write the function for each transformation.

a.



b.

