

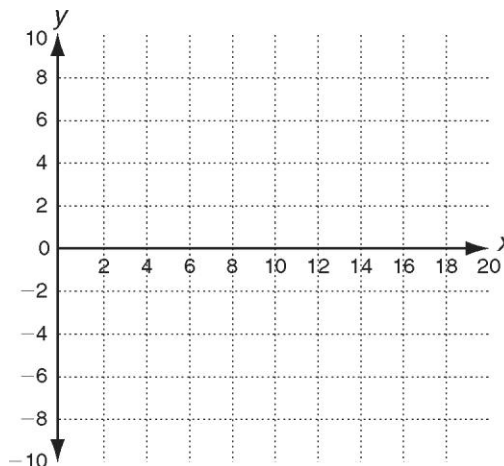
Section 5.7 Worksheet

Radical Functions

Graph each function.

1. $g(x) = \sqrt{x} - 2$

x	$g(x)$	$(x, g(x))$
0	$\sqrt{0} - 2 = -2$	$(0, -2)$
1		
4		
9		
16		



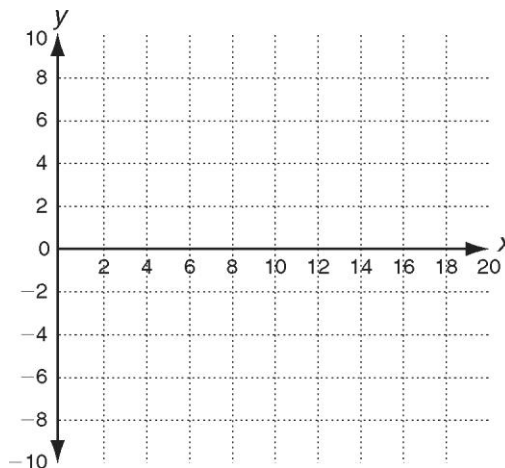
a. Describe the transformation from the parent function.

b. Identify the domain and range.

2. $g(x) = -\sqrt{x}$

a. Complete the table of values, then graph.

x	$g(x)$	$(x, g(x))$
0	$-\sqrt{0} = 0$	$(0, 0)$
1		
4		
9		
16		



b. Describe the transformation from the parent function.

c. Identify the domain and range.

Solve.

3. Dale wants to horizontally stretch the function $f(x) = \sqrt{x+5}$ by a factor of 3.

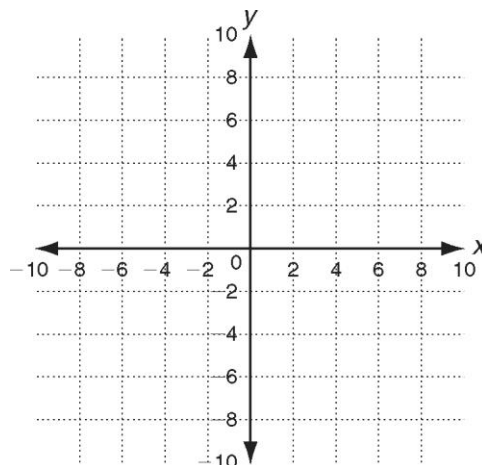
He writes the function $f(x) = \sqrt{3x+5}$. Is he correct? If not, what is the correct function?

Graph the function and identify its domain and range.

4. $f(x) = \sqrt{x-4}$

Domain: _____

Range: _____



Using the graph of $f(x) = \sqrt{x}$ as a guide, describe the transformation.

5. $g(x) = 4\sqrt{x+8}$ _____

6. $g(x) = -\sqrt{3x} + 2$ _____

Use the description to write the square root function g .

7. The parent function $f(x) = \sqrt{x}$ is reflected across the y -axis, horizontally stretched by a factor of 7, and translated 3 units down.

8. The parent function $f(x) = \sqrt{x}$ is translated 2 units right, compressed vertically by a factor of $\frac{1}{2}$, and reflected across the x -axis.

Solve.

9. For a gas with density, n , measured in atoms per cubic centimeter, the average distance, d , between atoms is given by $d = \left(\frac{3}{4\pi n}\right)^{\frac{1}{3}}$. The gas in a certain region of space has a density of just 10 atoms per cubic centimeter. Find the average distance between the atoms in that region of space.