

## Properties of Square Root Functions

Name: \_\_\_\_\_

Given:  $f(x) = \sqrt{x+7} - 2$

$$g(x) = -\frac{1}{2}\sqrt{30-5x}$$

$$h(x) = 2\sqrt{10x-9} + 3$$

Evaluate the following.

1)  $g(1)$

2)  $h(9)$

3)  $f(2)$

4)  $f(42)$

5)  $h(1.8)$

6)  $f(9)$

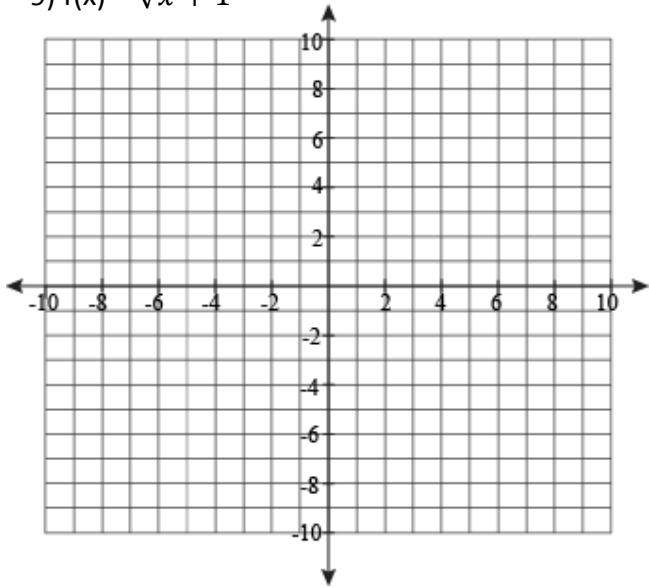
Evaluate the following using the functions from above. Leave your answers as expressions in terms of  $x$ .

7)  $g(x-2)$

8)  $h(1-2x)$

Graph each function, fill in the table, and identify the specified attributes of the graph.

9)  $f(x) = \sqrt{x + 1}$



x	f(x)
-1	
0	
3	
8	

Vertex: \_\_\_\_\_

Increasing: \_\_\_\_\_

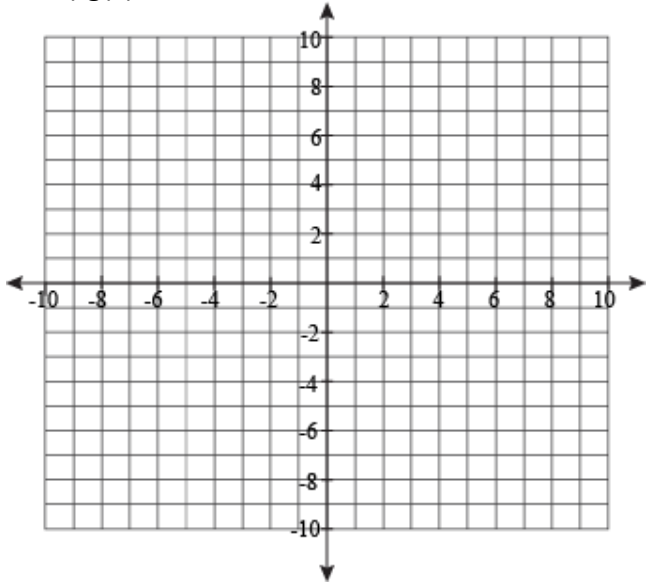
Decreasing: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

End behavior: \_\_\_\_\_

10)  $g(x) = -2\sqrt{x + 4} - 2$



x	f(x)
	-2
-3	
0	-8

Vertex: \_\_\_\_\_

Increasing: \_\_\_\_\_

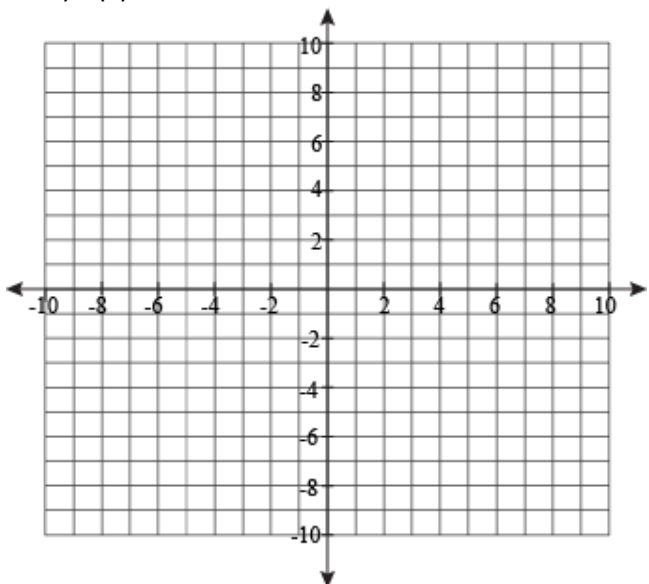
Decreasing: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

End behavior: \_\_\_\_\_

11)  $h(x) = 3\sqrt{8 - x} - 6$



x	f(x)

Vertex: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

x-intercept: \_\_\_\_\_ y-intercept: \_\_\_\_\_

End behavior: \_\_\_\_\_