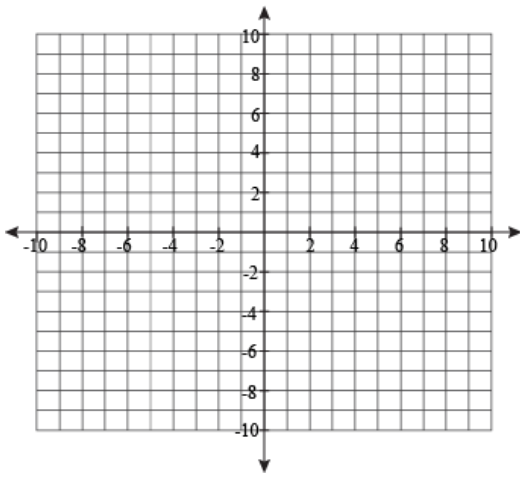


Review Square Roots

Name: _____

Graph and determine the attributes of the following functions.

1) $f(x) = -2\sqrt{x+3} + 1$



Vertex: _____

Increasing: _____ Decreasing: _____

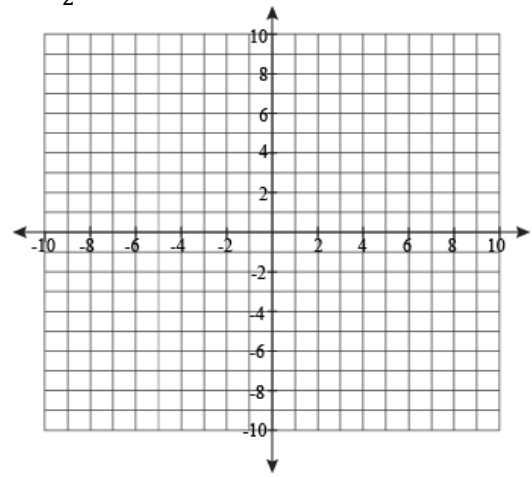
Domain: _____ Range: _____

x-intercept: _____ y-intercept: _____

End behavior: _____

Transformation(s): _____

2) $g(x) = \frac{1}{2}\sqrt{-(x+2)} - 4$



Vertex: _____

Increasing: _____ Decreasing: _____

Domain: _____ Range: _____

x-intercept: _____ y-intercept: _____

End behavior: _____

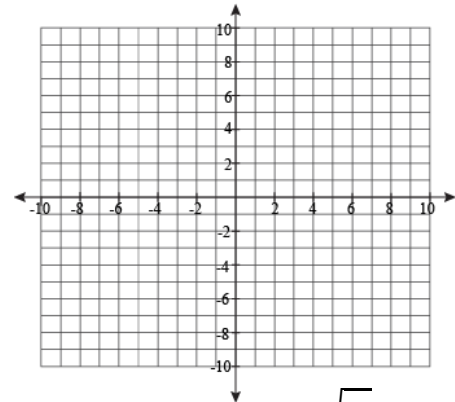
Transformation(s): _____

3) The following points represent a square root relationship. Which function best fits the data?

(2.5, -4), (1, -1), (-2, .75), (-5, 1.25), (-9, 3)

(A) $f(x) = -\sqrt{x-3} - 4$ (B) $g(x) = \sqrt{-(x-2.5)} - 2$

(C) $h(x) = 2\sqrt{x+4} - 3$ (D) $k(x) = 2\sqrt{-(x-3)} - 4$



4) Solve the equation $x = 2\sqrt{4y-b}$ for y.

5) Solve the equation $y - c = \sqrt{\frac{\pi r}{3}}$ for r.

Solve the following square root equations. Identify any extraneous solutions.

6) $x + 3 = \sqrt{x + 5}$

7) $4\sqrt{7x - 1} = \sqrt{5x + 3}$

Evaluate each of the following square root expressions.

8) Find $f(2)$ given $f(x) = -2\sqrt{10x - 4} + 2$

9) Find $g(x) = 3$ given $g(x) = \frac{\sqrt{4x+2}}{2} + 1$

10) Find $h(2x + 1)$ given $h(x) = 3\sqrt{4x - 1} + 23$

11) The data represents the radar-detected speed, s , in inches per second, of a dropped object at the end of a fall as a function of its starting height, v , in inches. The equation $s(v) = 22.26\sqrt{v - 30} + 56$ represents the data.

(a) Estimate the speed if the starting height was 63 inches.

(b) Estimate the starting height if the speed at the sensor was 400 in/sec.

Starting Height (v) (inches)	Speed at Sensor (s) (in./sec)
30	56
35	101
45	129
70	193
90	226
125	273
150	313
200	354