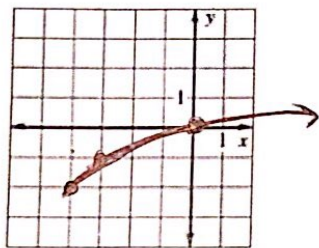


Day 3 Homework: Graphing Radical Functions

Graph the function. Then state the domain and range.

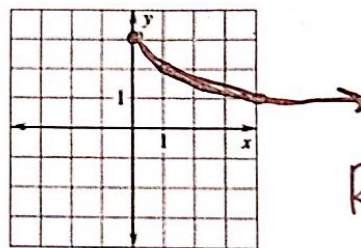
1. $f(x) = \sqrt{x+4} - 2$

vertex:
(-4, -2)



D: $[-4, \infty)$ R: $[-2, \infty)$

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

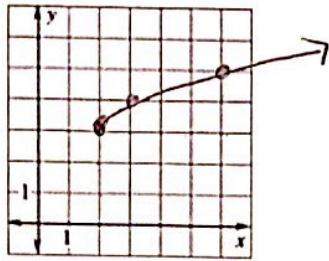


D: $[0, \infty)$

R: $(-\infty, 3]$

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

3. $f(x) = (x-2)^{1/2} + 3$

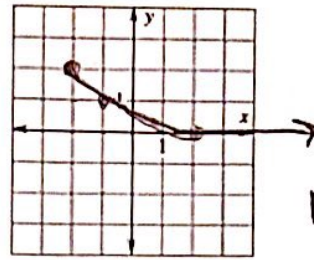


vertex:
(2, 3)

D: [2, ∞)

R: [3, ∞)

4. $f(x) = -\sqrt{x+2} + 2$



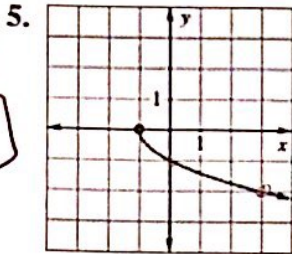
vertex:
(-2, 2)

D: [-2, ∞)

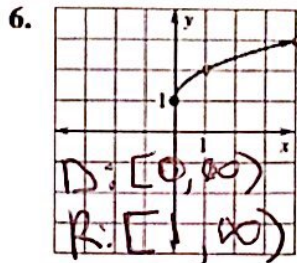
R: (-∞, 2]

Write an equation for each graph. Then state the domain and range.

D: [-1, ∞)
R: (-∞, 0]

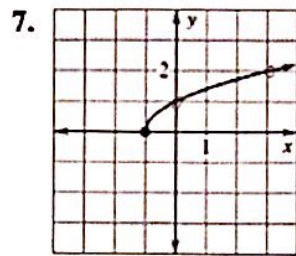


$$y = -\sqrt{x+1}$$



D: [0, ∞)
R: [1, ∞)

$$y = \sqrt{x} + 1$$



D: [-1, ∞)
R: [0, ∞)

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

Describe the transformations in the graph of each equation. Then state the domain and range.

8. $f(x) = -\sqrt{x+4} - 1$

- Reflect over x-axis
- Left + 4
- Down 1

D: [-4, ∞) R: (-∞, -1]

12. $f(x) = 4 + (-x)^{1/2}$

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

- Up 4
- Reflect over y-axis

D: (-∞, 0] R: [4, ∞)

9. $f(x) = (x-3)^{1/2} + 2$

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

- Right + 3
- Up 2

D: [3, ∞) R: [2, ∞)

13. $f(x) = 5 - (x+4)^{1/2}$

$$f(x) = 5 - \sqrt{x+4}$$

$$f(x) = -\sqrt{x+4} + 5$$

- Reflect over x-axis
- Left + 4
- Up 5

D: [-4, ∞)
R: (-∞, 5]