

EXERCISE A

Graph each function. Then, state its domain and range.

1) $y = \sqrt{x} + 2$

2) $y = \sqrt{4x}$

3) $y = \sqrt{x-1} + 3$

4) $y = -\sqrt{x} + 4$

5) $y = \sqrt{x+5}$

6) $y = -3\sqrt{x}$

Name the domain and range for the following functions. You do not need to graph them.

7) $f(x) = \sqrt{x-6}$

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

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

Graph each inequality.

10) $y \leq \sqrt{x-4} + 1$

11) $y > \sqrt{2x+4}$

12) $y \geq \sqrt{x+2} - 1$

EXERCISE B

Graph each function. Then, state its domain and range.

13) $y = \sqrt{3x}$

14) $y = -4\sqrt{x}$

15) $y = \sqrt{x+2}$

16) $y = \sqrt{x+6} - 3$

17) $y = \sqrt{3x-6} + 4$

18) $y = 5 - \sqrt{x+4}$

Name the domain and range for the following functions. You do not need to graph them.

19) $f(x) = \sqrt{x-7} + 11$

20) $f(x) = -\sqrt{4x} - 8$

21) $f(x) = 2\sqrt{3-4x} + 3$

Graph each inequality.

22) $y \leq -5\sqrt{x}$

23) $y > \sqrt{2x+8}$

24) $y \geq \sqrt{x-3} + 4$

EXERCISE C



25) The force due to gravity decreases with the square of the distance from the center of earth. As an object moves farther from earth, its weight decreases. The radius of earth is approximately 3960 miles. The formula relating weight and distance is

$$r = \sqrt{\frac{3960^2 W_E}{W_S}} - 3960$$

where W_E represents the weight of a body on earth, W_S represents its weight a certain distance from the center of earth, and r represents the distance above earth's surface.

Round answers to nearest hundredth.

- a) if an astronaut weighs 140lbs. on earth and 120lbs. in space, how far is he above the earth's surface?
- b) if an astronaut weighs 125lbs. on earth, what is her weight in space if she is 99 miles above the surface of the earth?

ANSWERS: all graphs, see Mr. Paull

- | | | | |
|------------------------------------|---|-------------------------------------|---|
| 1) D: $x \geq 0$
R: $y \geq 2$ | 7) D: $x \geq 6$
R: $y \geq 0$ | 15) D: $x \geq -2$
R: $y \geq 0$ | 21) D: $x \geq 3/4$
R: $y \geq 3$ |
| 3) D: $x \geq 1$
R: $y \geq 3$ | 9) D: $x \geq 1/2$
R: $y \geq 0$ | 17) D: $x \geq 2$
R: $y \geq 4$ | 23) See Mr.
Paull |
| 5) D: $x \geq -5$
R: $y \geq 0$ | 11) See Mr. Paull
13) D: $x \geq 0$
R: $y \geq 0$ | 19) D: $x \geq 7$
R: $y \geq 11$ | 25a) ≈ 317.29 mi
b) ≈ 118.98 lbs |