

Practice 15

For use with Section 2-6

Find y when $x = 5$. Round decimals to the nearest tenth.

1. $y = 6\sqrt{x+4}$

2. $y = -3\sqrt{7x}$

3. $y = 5 - \sqrt{x+3}$

4. $y = 3\sqrt{x+8} + 1$

5. $y - 2 = \sqrt{27 - 2x}$

6. $y = 2\sqrt{4x-8} - 7$

Find x when $y = 3$.

7. $y = 4\sqrt{x-1}$

8. $3y + 1 = \sqrt{x+5}$

9. $7 - 2y = \sqrt{3x-1}$

10. $-y + 9 = 2\sqrt{x}$

11. $-2y + 10 = \sqrt{8-x}$

12. $4y - 7 = \sqrt{5x+3}$

Graph each function, and then find the domain and range.

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

14. $y = 3\sqrt{x} - 5$

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

16. $y = 6.5 - \sqrt{x}$

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

18. $y = \sqrt{3x+6} - 7$

Simplify.

19. $\sqrt{81x}$

20. $\sqrt{48y}$

21. $\sqrt{125w}$

22. $\sqrt{98p}$

23. $\sqrt{300r}$

24. $\sqrt{180c}$

25. $\sqrt[3]{1000t}$

26. $\sqrt[3]{27u}$

27. $\sqrt[3]{56n}$

28. $\sqrt[3]{250a}$

29. $\sqrt[3]{5000b}$

30. $\sqrt[3]{128k}$

Solve.

31. $3\sqrt{x} = x$

32. $\sqrt{x+2} = x$

33. $\sqrt{2x-5} = x-4$

34. $\sqrt{3x+7} - 3 = x$

35. $\sqrt{6x+7} + 1 = 2x$

36. $4\sqrt[3]{x} = x$

37. The frequency f (in hertz) at which an electric guitar string vibrates is given by

$$f = \frac{1}{2L} \sqrt{\frac{T}{\mu}}$$

where L is the length of the string (in meters), T is the tension on the string (in newtons), and μ is the linear density of the string (in kilograms per meter). Solve the equation for T .