37. yes; $g(x) = x^2 - 4$, where $x \geq 0$

38. yes; $g(x) = x^2 + 6$, where $x \geq 0$

39. yes; $g(x) = \dfrac{x^3}{8} + 5$

40. no; $y = \pm\sqrt{\dfrac{x+5}{2}}$

41. no; $y = \pm\sqrt[4]{x-2}$

42. yes; $g(x) = \sqrt[3]{\dfrac{x+5}{2}}$

43. yes; $g(x) = \dfrac{x^3}{27} - 1$

44. yes; $g(x) = \dfrac{-3x^3 - 4}{2}$

45. yes; $g(x) = \sqrt[5]{2x}$

46. yes; $g(x) = \dfrac{x^2 + 21}{12}$, where $x \leq 0$

47. B

48. C

49. The functions are not inverses.

50. The functions are inverses.

51. The functions are inverses.

52. The functions are not inverses.

53. $\ell = \left(\dfrac{v}{1.34}\right)^2$; about 31.3 ft

54. $L = \dfrac{8}{3}R + \dfrac{40}{3}$; 64 in.

55. B

56. C

57. A

58. D

59. 5; When $x = 5$, $2x^2 + 3 = 53$.

60. no; *Sample answer:* $y = (x - 1)^2$, $x \geq 0$ does not have an inverse function.