Answers to Even-Numbered Review Exercises | Test 1

Chapter 1

Supplementary (§1.1, pg. 12)

76. $x = 0$

82. $x = \frac{1}{54}$

Supplementary (§1.5, pp. 55-56)

36. $S = \left(\frac{40}{3}, \frac{56}{3}\right]$

38. $S = \left(-\frac{7}{2}, \frac{37}{2}\right)$

52. $S = (-\infty, \infty)$ (All real numbers)

58. $S = \left(-\infty, -\frac{13}{3}\right) \cup (9, \infty)$

Supplementary (§1.6, pp. 64-65)

48. $S = \left\{-\frac{38}{5}, \frac{46}{5}\right\}$

52. $S = \{0, 7\}$

68. $S = \left\{-\frac{23}{31}, 47\right\}$

78. $S = (-\infty, -1) \cup (5, \infty)$

94. $S = \left[-5, \frac{25}{7}\right]$

100. $S = \left(-\infty, -\frac{43}{24}\right) \cup \left(\frac{9}{8}, \infty\right)$

104. $S = (-\infty, -2] \cup [5, \infty)$

120. $S = (-\infty, \infty)$ (All real numbers)

Chapter 2

Supplementary (§2.2, pg. 93)

18. $h(4) = h(-6) = h(12.5) = h(0)$
$$= h\left(\tfrac{2}{3}\right) = h(a+3) = 19$$

20. a) $f(0) = 1$ b) $f(1) = 2$
   c) $f(-1) = 6$ d) $f(10) = 281$
   e) $f(-3) = 34$
   f) $f(2a) = 12a^2 - 4a + 1$

22. a) $g(4) = 3$ b) $g(-2) = 3$
   c) $g(-1) = 2$ d) $g(100) = 99$
   e) $g(5a) = |5a - 1|$ f) $g(a+1) = |a|$

Supplementary (§2.3, pg. 100)

20. $D_f = \left\{x \mid x \neq \frac{3}{2}, x \text{ is real}\right\} = \left(-\infty, \frac{3}{2}\right) \cup \left(\frac{3}{2}, \infty\right)$

24. $D_g = (-\infty, \infty)$ (All real numbers)

26. $D_g = (-\infty, \infty)$ (All real numbers)

28. $D_g = \{x \mid x \neq 2, x \text{ is real}\} = (-\infty, 2) \cup (2, \infty)$

30. $D_g = (-\infty, \infty)$ (All real numbers)

32. $D_g = \{x \mid x \neq 2, x \text{ is real}\} = (-\infty, 2) \cup (2, \infty)$