Chapter 1 Review Answers

1. -1
2. dne
3. -3
4. 1
5. $-\infty$
6. 2
7. 1. $x = 2,\ \lim_{x \to 2} f(x) \neq f(2)$
   2. $x = \pm 2,\ f(\pm 2)$ *not defined*
   3. *continuous everywhere*
   4. $x = 1,\ \lim_{x \to 1} f(x) =$ *dne*
   5. $x = -2,\ \lim_{x \to -2} f(x) =$ *dne*
   6. $x = 1,\ f(1)$ *not defined*
8. 1
9. $\frac{1}{2}$
10. 3
11. 0
12. 0
13. 5
14. 2
15. 0
16. ∞
17. 2
18. dne
19. 1
20. -6
21. -12
22. $.083 = \frac{1}{12}$
23. 0
24. $.25$
25. 0
26. dne
27. dne
28. *v.a.* $x = 4$, *h.a.* $y = 0$
29. *v.a.* $x = 1$, *h.a.* $y = 3$
30. *v.a.* $x = \pm\frac{1}{2}$, *h.a. none*

31. if the limit = ∞, there is no h.a.
otherwise, they are equal

32. $x = -4$

33. $x = -4$

34. $x = -3, -1$

35. $x = -1$

36. defined everywhere

37. $x = -1$

38. and 39. have limits everywhere

40. $x = -1, -3$

41 $x = -1$

42. continuous