1. A	2. $\lim_{x \to -\infty} f(x) = \infty$ $\lim_{x \to \infty} f(x) = -\infty$
3. A) -4 B) 6	4. D
5. Left 4, Down 3, *x*-axis reflection	6. A) $2x^2-17$ b) $4x^2-12x+2$
7. 64 ft	8. A) $y = \sqrt{\frac{x+4}{3}}$ B) $y=4x^2-4$
9. Increasing: (-1.2,0) ∪(1.2, ∞) Decreasing: (-∞,-1.2) ∪(0, 1.2)	10. A) D: [5, ∞) R: [2, ∞) B)D: (-∞,∞) R: (-∞,∞) C) D: (-5,3] ∪(-2,1) ∪(2, ∞) R: [-2,1) ∪ [2] ∪(3, ∞) D) D: (-∞,-1.5) ∪(-1.5, ∞) R: (-∞, 2) ∪(2, ∞)
11. A) VA: $x = \pm 1$; HA: $y = 1$ B) VA: $x = -4/3$; HA: none C) VA: $x = \pm 2$; HA: $y = 0$	12. 0
13. 1.18	14. 2.29
15. -3	16. 3
17. A) 1 B) 2^6 C) 2	18. $5\log_3 x + 4\log_3 y + \frac{1}{2}\log_3 z$
19. $\ln \frac{\sqrt[4]{x}}{y+4}$	20. A) 3.81 B) 1.79
21. D: (-∞ ∞) R: (0, ∞)	22. Left 4, Up 2, Vertical Stretch of 4, *x*-axis reflection
23. D: (-∞ ∞) R: (-∞, 4), Asymptote: VA:none, HA: $y = 4$ $\lim_{x \to \infty} f(x) = -\infty$ $\lim_{x \to -\infty} f(x) = 4$	24. Decreasing: (-∞,∞) Increasing: No where
25. During 2043, so at year 2044	26. E
27. A	28. B
29. B	30. E
31. D	32. A
33. E	34. $a_n = -\frac{7}{3}n + \frac{107}{3}$
35. r =-4	36. D
37. B	38. 160
39. 1,062,882	40. B
41. C	42. B
43. C	44. -45.5
45. 1.5	46. 40
47. C	48. B
49. A	