1. A
2. \(-20x^5 + 8x^3\); quintic binomial
3. quintic trinomial
4. \(-4x^3 + 17x - 72\), R 290
5. \(x^3 - 9x^2 - 15x + 11\)
6. P(-1) = 2
7. \(x = \frac{3 + i}{2}, \frac{3 - i}{2}, -4\)
8. \(x = -1, \pm 2\sqrt{2}\)
9. \(x = 5, \pm i\sqrt{7}\)
10. \(2\alpha^3 b\sqrt{\frac{3}{3\alpha}}\)
11. \(3x^6 \sqrt{\frac{35}{2x}}\)
12. \(\frac{x^3 y^3 \sqrt{35y}}{7}\)
13. 1.42 in.
14. \(4\sqrt{6} + 24\)
15. \(x = 10\)
16. \(x = 41\)
17. \(-12 - 7\sqrt{2}\)
18. \(f(x) = 250(1.17)^x\)
19. \(y = 5(3)^x\)
20. \(y = 179 \left(\frac{1}{2}\right)^{83} \); 148.957 kg
21. $1,967.23
22. \log_5 2, 187 = 7
23. \(64^{\frac{3}{2}} = 16\)
24. \(\log_{10}(\sqrt{8})\)
25. \(\log_6 8\)
26. \(\log_9 8 + 5 \log_9 m\)
27. \(x = -0.046\)
28. \(x = 0.07\)
29. \(y = \frac{7wx}{z}; 40\)
30. Vert. asymptote \(x=3, x=6\);
Horizontal asymptote \(y=0\)
31. asymptote: \(x = -5\) and hole: \(x = -4\)
32. direct variation: \(y = -15x\)
33. \(x + 5; x \neq -3, -6\)
34. \(\frac{a^2 + a}{a + 5}, a \neq -2, 0, -5\)
35. \(\frac{b - 1}{b + 8}\)
36. \(\frac{6k - 37}{(k - 7)(k + 7)}\)
37. 16
38. \(\frac{m + 1}{(m + 4)(m + 5)}\) 53
39. \(d = -\frac{73}{75}\)
40. \(x = \frac{13}{3}\)
41. \(\frac{(x - 3)^2}{64} + \frac{(y - 4)^2}{25} = 1\)
42. \((x - 8)^2 + (y - 6)^2 = 9\)
43. \(-24y = x^2\)
44. vertex \((-5, 3), \) focus \((-5, 6), \) directrix at \(y = 0\)
45. \(\frac{(x-2)^2}{7} + \frac{(y-3)^2}{5} = 1\)
ellipse with center \((2, 3), \)
46. \(\frac{(x+3)^2}{2} - \frac{(y+5)^2}{5} = 1\)
hyperbola with center \((-3, -5), \) foci at \((-3 \pm \sqrt{7}, -5)\)
47. \(h = \frac{0.00252d^{2.27}}{e}\)
Write the formula.
\(= \frac{0.00252(90)^{2.27}}{14}\)
Substitute for \(d\) and \(e.\)
\(\approx 49.14\)
The distance is about 49.14 meters.
48. a. \(-20^\circ C\)
   b. 342 meters per second
49. $27,323
50. 8y = x^2
51. 0.26 tons
52. \(\frac{1}{7} + \frac{1}{6} = \frac{1}{x}; 3.23\) hours
53. a. \((x - 4)^2 + (y + 5)^2 = 49\)
   b. about 44 meters
59. Vertex \((-5, 4)\), focus \((-5, 6)\),
directrix at \(y = 2\)