1. 77

2. $3x^4(x^2 - 8x + 3)$

3. 42

4. $(8 - a)(5 - a)$

5. $23^{\frac{1}{3}}$

6. $32x^3 + 96x^2 + 104x + 40$

7. $v^5 - 3v^4 + 5v^3 + 8v^2 + 4v - 11$

8. 6, -7

9. $r^3 + t^3$

10. $\frac{4x^3}{y}\sqrt[3]{x^2}$

11. $5a^3$

12. 7, -1

13. $2y^5\sqrt[3]{2}$

14. $3x^8 - 8x^5 - 21x^3 + 56$

15. $-8 < x < -4, x > 18$

16. 5

17. $w^2 + \frac{7}{10}w + \frac{1}{10}$

18. $\frac{3+i\sqrt{19}}{2}, \frac{3-i\sqrt{19}}{2}$

19. $\frac{121y}{5}$

20. $(8t - 7)^2$

21. Perimeter = $4z + 6$
Area = $z^2 + 3z$

22. $9(5c + 9g)^2$

23. $(b + 6)^2$

24. $\frac{t(t+9)}{t^2-1}$

25. $| a + 8 |$

26. $\frac{n-7}{n+7}$

27. 0.7

28. $\frac{12}{w+8}$

29. $k = 5$
$y = 5x$

30. x^4

31. $\frac{1}{z^3}$

32. $32\sqrt{3}$

33. D

34. D

35. $-14s^2 + 9s$

36. The degree of the first term is 3
The degree of the second term is 2
The degree of the third term is 1
The degree of the fourth term is 0
The degree of the polynomial is 3

37. $\frac{3(z-2)}{z-1}$

38. $\frac{9z}{z-2}$

39. Solutions: $\sqrt{2},\ -\sqrt{2}$
x-intercepts: $\left(\sqrt{2}, 0\right), \left(-\sqrt{2}, 0\right)$

40. x-coordinate of the vertex is ½
y-coordinate of the vertex is 19/2
Line of symmetry is x = ½
Maximum value of f(x) is 19/2
f(1/2) = 19/2 is a maximum
Graph A

41. (2r + 9)(2r – 9)

42. $\frac{1}{z^8}$

43. $-1+\sqrt{5},\ -1-\sqrt{5}$

44. c^{13}

45. $2a\sqrt{5b}$

46. b(b + 5)(b – 7)

47. (5, 0), (-1, 0)

48. 5

49. $2\frac{8}{11}$

50. $36n^8$

51. $-2x^2 - 9xy - 6y^2$

52. $\frac{s+1}{6s+5}$

53. 9

54. 12

55. -1, 2

56. Discriminant = -1340
C

57. Vertex is (-9, 6)
Line of symmetry is x = -9
Minimum value of f(x) = 6
f(-9) = 6 is a minimum
Graph B

58. 4, -4

59. $\frac{\sqrt{6}}{2}, -\frac{\sqrt{6}}{2}, \frac{\sqrt{10}}{5}, -\frac{\sqrt{10}}{5}$

60. 6

61. $\frac{c-2\sqrt{cd}+d}{c-d}$

62. 80,100,000

63. $x^2 - 6x + 9$

64. C

65. $-\frac{1}{2}$

66. -120