Solving (Polynomial) Equations

Pre/Calculus 11, Veritas Prep.

Solve each of the following equations for x. (What do I mean by "solve"? I mean, find all the values of x such that the equation is true.)

1. $x = 0$

2. $2x = 4$

3. $3x = 5$

4. $x - b = 0$

5. $4x - 2a = -7$

6. $5 = 3$

7. $x - 5 = 6$

8. $x^2 = 9$

9. $x^2 = 12$

10. $x^2 = 40$

11. $-x^2 = -10$

12. $3x^2 = 12$

13. $\frac{1}{2}x^2 = 10$

14. $-5x^2 = -30$

15. $-3x^2 = 11$

16. $25x^2 - 4 = 0$

17. $4x^2 - 28 = 0$

18. $-3x^2 + 8 = -20$

19. $-2x^2 - 11 = 5$

20. $\frac{1}{x} = 0$

21. $x^2 - 8x + 15 = 0$

22. $x^2 - 5x = 14$

23. $x^2 + 5x + 6 = 0$

24. $x^2 + x = 20$

25. $2x^2 + 5x - 3 = 0$

26. $3x^2 - x - 2 = 0$

27. $4x^2 + 9x + 2 = 0$

28. $9x^2 + 2 = 11x$

29. $3x^2 + x = 4$

30. $5x^2 + 26x = -5$

31. $12x^2 + 13x = 4$

32. $18x^2 = 23x + 6$

33. $x^2 - yz + xz - xy = 0$

34. $x^6 - 2x^4 - 8x^2 + 16 = 0$

35. $a^3 - 2b^2 + 2a^2b - ab = 0$

36. $u^2x - 2w^2 - 2uxw + uw = 0$

37. $x^3 + 4x^2 - 8x - 32 = 0$

38. $z^8 - 5z^7 + 2z - 10 = 0$

39. $12x^3 + 9x^2 + 8x + 6 = 0$

40. $10x^2y - 8x^2 + 5y - 4 = 0$

41. $3x^2 + 5x + 11 = 0$

42. $px^2 + qx + r = 0$

43. $x^2 - 2x = 12$

44. $x^2 - 4x - 30 = 0$

45. $x^2 - x - 1 = 0$

46. $x^2 + 3x - 2 = 0$

47. $x^2 - 4x + 1 = 0$

48. $x^2 + 6x + 7 = 0$

49. $x^2 + 6 = 2x$

50. $4x^2 - 4x = 7$

51. $4x^2 - 8x + 1 = 0$

52. $5x^2 + 8x = -2$

53. $x^2 + 9x + 18 = 0$

54. $4x(x + 1) = 1$

55. $2x^2 = 7x + 15$

56. $x^2 + 4x + 13 = 0$

57. $\frac{7x^2}{3} = \frac{2x}{3} - 1$

58. $25x + \frac{4}{x} = 20$

59. $\sqrt{7}x^2 + 3x + 33 = 0$

60. $x^2 + \pi x + 3.1 = 0$

61. $5x^2 + 5x + 5 = 0$

62. $10\alpha x^{29} - 40g\alpha x^{27} - 5yx^2\alpha^2 + 20\alpha^2 gy = 0$