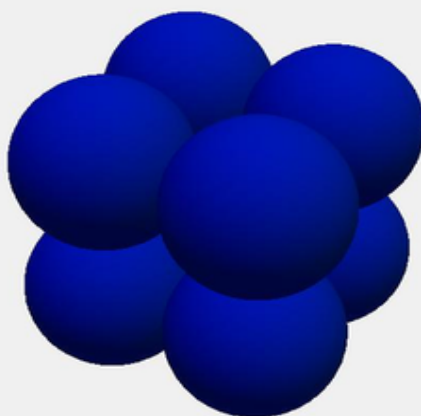


MathCon

The Mathematics Firm

Ecuaciones de 2° grado

Problemas sobre despejes en ecuaciones de 2° grado



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Capítulo 1

Ecuaciones de 2° grado

1.1. Calcular las raíces de las siguientes ecuaciones de 2° grado.

- | | |
|------------------------|---|
| 1. $x^2 - 4x - 5$ | Sol: $x_1 = -1$ $x_2 = 5$. |
| 2. $3x^2 + 9x + 6$ | Sol: $x_1 = -2$ $x_2 = -1$. |
| 3. $x^2 + 10x - 11$ | Sol: $x_1 = -11$ $x_2 = 1$. |
| 4. $-x^2 + 17x - 16$ | Sol: $x_1 = 1$ $x_2 = 16$. |
| 5. $-x^2 + 8x + 20$ | Sol: $x_1 = -2$ $x_2 = 10$. |
| 6. $9x^2 - 9x - 18$ | Sol: $x_1 = -1$ $x_2 = 2$. |
| 7. $-2x^2 - 10x + 12$ | Sol: $x_1 = -6$ $x_2 = 1$. |
| 8. $-5x^2 - 15x - 10$ | Sol: $x_1 = -2$ $x_2 = -1$. |
| 9. $-x^2 - 14x + 15$ | Sol: $x_1 = -15$ $x_2 = 1$. |
| 10. $-2x^2 + 12x - 18$ | Sol: $x_1 = -15$ $x_2 = 1$. |
| 11. $7x^2 + 7x - 14$ | Sol: $x_1 = -2$ $x_2 = 1$. |
| 12. $10x^2 - 10x - 20$ | Sol: $x_1 = -2$ $x_2 = 1$. |
| 13. $2x^2 + 3x - 14$ | Sol: $x_1 = -\frac{7}{2}$ $x_2 = 2$. |
| 14. $8x^2 - 10x - 12$ | Sol: $x_1 = -\frac{3}{4}$ $x_2 = 2$. |
| 15. $-18x^2 + x + 17$ | Sol: $x_1 = -\frac{17}{18}$ $x_2 = 1$. |
| 16. $14x^2 - x - 15$ | Sol: $x_1 = \frac{15}{14}$ $x_2 = -1$. |
| 17. $-19x^2 - x + 18$ | Sol: $x_1 = \frac{18}{19}$ $x_2 = -1$. |
| 18. $14x^2 - 18x - 20$ | Sol: $x_1 = -\frac{5}{7}$ $x_2 = 2$. |

19. $-9x^2 - 5x + 14$

Sol: $x_1 = -\frac{14}{9}$ $x_2 = 1$.

20. $20x^2 + 2x - 18$

Sol: $x_1 = \frac{9}{10}$ $x_2 = -1$.

21. $-6x^2 + 13x - 2$

Sol: $x_1 = \frac{1}{6}$ $x_2 = 2$.

22. $-7x^2 + 19x - 10$

Sol: $x_1 = \frac{5}{7}$ $x_2 = 2$.

23. $-8x^2 - 14x - 6$

Sol: $x_1 = -\frac{3}{4}$ $x_2 = -1$.

24. $-7x^2 - 2x + 5$

Sol: $x_1 = \frac{5}{7}$ $x_2 = -1$.

25. $17x^2 - 5x - 12$

Sol: $x_1 = -\frac{12}{17}$ $x_2 = 1$.

26. $8x^2 - 19x + 6$

Sol: $x_1 = \frac{3}{8}$ $x_2 = 2$.

27. $12x^2 + 15x - 18$

Sol: $x_1 = \frac{3}{4}$ $x_2 = -2$.

28. $-14x^2 - 19x + 18$

Sol: $x_1 = \frac{9}{14}$ $x_2 = -2$.

29. $11x^2 - 9x - 20$

Sol: $x_1 = \frac{20}{11}$ $x_2 = -1$.

30. $13x^2 + 18x - 16$

Sol: $x_1 = -\frac{8}{13}$ $x_2 = -2$.

31. $-3x^2 + x + 2$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = 1$.

32. $4x^2 + 17x + 13$

Sol: $x_1 = -\frac{13}{4}$ $x_2 = -1$.

33. $7x^2 - 8x - 15$

Sol: $x_1 = -1$ $x_2 = \frac{15}{7}$.

34. $16x^2 + 14x - 2$

Sol: $x_1 = -1$ $x_2 = \frac{1}{8}$.

35. $3x^2 + 5x - 8$

Sol: $x_1 = -\frac{8}{3}$ $x_2 = 1$.

36. $12x^2 - 17x - 14$

Sol: $x_1 = -\frac{7}{12}$ $x_2 = 2$.

37. $7x^2 - 5x - 18$

Sol: $x_1 = -\frac{9}{7}$ $x_2 = 2$.

38. $7x^2 - 17x - 12$

Sol: $x_1 = -\frac{4}{7}$ $x_2 = 3$.

39. $7x^2 - 4x - 20$

Sol: $x_1 = -\frac{10}{7}$ $x_2 = 2$.

40. $18x^2 + 6x - 12$

Sol: $x_1 = -1$ $x_2 = \frac{2}{3}$.

41. $-11x^2 + 20x - 9$

Sol: $x_1 = 1$ $x_2 = \frac{9}{11}$.

42. $10x^2 + 13x - 14$

Sol: $x_1 = -2 \quad x_2 = \frac{7}{10}$.

43. $11x^2 + 18x - 8$

Sol: $x_1 = -2 \quad x_2 = \frac{4}{11}$.

44. $3x^2 + 20x + 12$

Sol: $x_1 = -6 \quad x_2 = -\frac{2}{3}$.

45. $14x^2 - 18x - 20$

Sol: $x_1 = 2 \quad x_2 = -\frac{5}{7}$.

46. $-5x^2 + x + 18$

Sol: $x_1 = -\frac{9}{5} \quad x_2 = 2$.

47. $17x^2 - 3x - 14$

Sol: $x_1 = -\frac{14}{17} \quad x_2 = 1$.

48. $16x^2 + x - 15$

Sol: $x_1 = \frac{15}{16} \quad x_2 = -1$.

49. $12x^2 - 15x + 18$

Sol: $x_1 = \frac{3}{4} \quad x_2 = -2$.

50. $19x^2 + x - 18$

Sol: $x_1 = \frac{18}{19} \quad x_2 = -1$.

51. $6x^2 - 20x - 16$

Sol: $x_1 = -\frac{2}{3} \quad x_2 = 4$.

52. $17x^2 + 18x + 1$

Sol: $x_1 = -\frac{1}{17} \quad x_2 = -1$.

53. $-11x^2 - 12x + 20$

Sol: $x_1 = \frac{10}{11} \quad x_2 = -2$.

54. $7x^2 + 13x - 20$

Sol: $x_1 = -\frac{20}{7} \quad x_2 = 1$.

55. $-30x^2 + 19x + 11$

Sol: $x_1 = -\frac{11}{30} \quad x_2 = 1$.

56. $-30x^2 + 19x + 11$

Sol: $x_1 = -\frac{11}{30} \quad x_2 = 1$.

57. $23x^2 + x - 22$

Sol: $x_1 = \frac{22}{23} \quad x_2 = -1$.

58. $-6x^2 - 17x - 12$

Sol: $x_1 = -\frac{3}{2} \quad x_2 = -\frac{4}{3}$.

59. $11x^2 - 12x - 11$

Sol: $x_1 = -\frac{11}{10} \quad x_2 = \frac{1}{2}$.

60. $10x^2 - 7x - 6$

Sol: $x_1 = -\frac{1}{2} \quad x_2 = \frac{6}{5}$.

61. $10x^2 + 17x - 20$

Sol: $x_1 = -\frac{5}{2} \quad x_2 = \frac{4}{5}$.

62. $15x^2 - 8x - 12$

Sol: $x_1 = -\frac{2}{3} \quad x_2 = \frac{6}{5}$.

63. $-18x^2 + 9x + 20$

Sol: $x_1 = -\frac{5}{6} \quad x_2 = \frac{4}{3}$.

64. $-18x^2 - 17x + 15$

Sol: $x_1 = -\frac{3}{2} \quad x_2 = \frac{5}{9}$.

65. $-18x^2 - 19x + 12$

Sol: $x_1 = -\frac{3}{2}$ $x_2 = \frac{4}{9}$.

66. $-20x^2 - 9x + 20$

Sol: $x_1 = -\frac{5}{4}$ $x_2 = \frac{4}{5}$.

67. $18x^2 + 18x - 20$

Sol: $x_1 = -\frac{5}{3}$ $x_2 = \frac{2}{3}$.

68. $-12x^2 + 10x + 12$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = \frac{3}{2}$.

69. $-6x^2 - 13x - 5$

Sol: $x_1 = \frac{1}{2}$ $x_2 = \frac{5}{3}$.

70. $14x^2 - 19x + 6$

Sol: $x_1 = \frac{1}{2}$ $x_2 = \frac{6}{7}$.

71. $20x^2 + 18x - 14$

Sol: $x_1 = -\frac{7}{5}$ $x_2 = \frac{1}{2}$.

72. $-15x^2 - 7x + 2$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = \frac{1}{5}$.

73. $18x^2 + 9x - 14$

Sol: $x_1 = -\frac{7}{6}$ $x_2 = \frac{2}{3}$.

74. $20x^2 - 18x - 18$

Sol: $x_1 = -\frac{3}{5}$ $x_2 = \frac{3}{2}$.

75. $8x^2 + 6x - 5$

Sol: $x_1 = -\frac{5}{4}$ $x_2 = \frac{1}{2}$.

76. $12x^2 - 17x - 7$

Sol: $x_1 = -\frac{1}{3}$ $x_2 = \frac{7}{4}$.

77. $-8x^2 + 10x + 7$

Sol: $x_1 = -\frac{1}{2}$ $x_2 = \frac{7}{4}$.

78. $12x^2 - 13x - 14$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = \frac{7}{4}$.

79. $-20x^2 - 8x + 9$

Sol: $x_1 = -\frac{9}{10}$ $x_2 = \frac{1}{2}$.

80. $14x^2 - 9x - 8$

Sol: $x_1 = -\frac{1}{2}$ $x_2 = \frac{8}{7}$.

81. $20x^2 - 13x - 15$

Sol: $x_1 = -\frac{3}{5}$ $x_2 = \frac{5}{4}$.

82. $-20x^2 - 9x + 20$

Sol: $x_1 = -\frac{5}{4}$ $x_2 = \frac{4}{5}$.

83. $-20x^2 - 18x + 18$

Sol: $x_1 = -\frac{3}{2}$ $x_2 = \frac{3}{5}$.

84. $-18x^2 + 15x + 18$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = \frac{3}{2}$.

85. $12x^2 - 4x - 1$

Sol: $x_1 = -\frac{1}{6}$ $x_2 = \frac{1}{2}$.

86. $6x^2 - 13x + 6$

Sol: $x_1 = \frac{2}{3}$ $x_2 = \frac{3}{2}$.

87. $-18x^2 + 15x + 18$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = \frac{3}{2}$.

88. $-6x^2 + 17x + 10$

Sol: $x_1 = -\frac{1}{2}$ $x_2 = \frac{10}{3}$.

89. $12x^2 + 14x + 4$

Sol: $x_1 = -\frac{2}{3}$ $x_2 = -\frac{1}{2}$.

90. $-15x^2 - 11x + 12$

Sol: $x_1 = -\frac{4}{3}$ $x_2 = \frac{3}{5}$.

91. $16x^2 + 22x - 15$

Sol: $x_1 = -\frac{15}{8}$ $x_2 = \frac{1}{2}$.

92. $-27x^2 + 24x - 5$

Sol: $x_1 = \frac{1}{3}$ $x_2 = \frac{5}{9}$.

93. $27x^2 - 30x - 8$

Sol: $x_1 = -\frac{2}{9}$ $x_2 = \frac{4}{3}$.

94. $-28x^2 - 27x + 10$

Sol: $x_1 = -\frac{5}{4}$ $x_2 = \frac{2}{7}$.

95. $-42x^2 + 25x + 28$

Sol: $x_1 = -\frac{4}{7}$ $x_2 = \frac{7}{6}$.

96. $-40x^2 + 50x + 15$

Sol: $x_1 = -\frac{1}{4}$ $x_2 = \frac{3}{2}$.

97. $20x^2 + 46x - 10$

Sol: $x_1 = -\frac{5}{2}$ $x_2 = \frac{1}{5}$.

98. $45x^2 + 14x + 1$

Sol: $x_1 = -\frac{1}{5}$ $x_2 = -\frac{1}{9}$.

99. $42x^2 + 5x - 22$

Sol: $x_1 = -\frac{11}{14}$ $x_2 = \frac{2}{3}$.

100. $46x^2 - 33x - 28$

Sol: $x_1 = -\frac{1}{2}$ $x_2 = \frac{28}{23}$.