ECUACIONES DE SEGUNDO GRADO

1. $5x^2-15=0$
2. $x^2=196$
3. $7x^2=0$
4. $x^2-1=0$
5. $4x^2-25=0$
6. $2x^2=0$
7. $9x^2-1=0$
8. $x^2-2401=0$
9. $5x^2-1=0$
10. $2x^2-36=0$
11. $2x^2-34=0$
12. $x^2-x=0$
13. $x^2+3x=0$
14. $2x^2+x=0$
15. $x^2+5x=0$
16. $4x^2-3x=0$
17. $x^2+8x=0$
18. $3x^2+x=0$
19. $5x^2-6x=0$
20. $8x^2=-2x$
21. $-x=-x^2$
22. $\frac{2}{3}x^2=\frac{5}{4}x$
23. $-\frac{4}{3}x=\frac{1}{2}x^2$
24. $2x^2+5x=-2$
25. $6x^2-13x=10x-21$
26. $6x^2-17x-14=0$
27. $x^2+2x-3=0$
28. $6-9x^2-15x=0$
29. $x-6+12x^2=0$
30. $9x^2+x-1=0$
31. $-5x-3+10x^2=0$
32. $2-4x=-5x^2$
33. $(x+2)(x-2)=2(x+5)+21$
34. $x^2+13x+36=0$
35. $-7-5x=-x^2$
36. $x^2-10x+21=0$
37. $2x^2+20-14x=0$
38. $6x^2-4=-2x$
39. $8x^2-2x=3$
40. $x^2+x=12$
41. $-6x+5x^2=27$
42. $5x^2+2x-3=0$
43. $x^2+3x=40$
44. $3x^2-10x=24$
45. $x^2+3x=28$
46. $(3x-1)(2x+5)=0$
47. $(x+5)(x-5)=0$
48. $(2x+3)(3x-2)=1$
49. $(x-1)(x+2)=0$
50. $(x+2)(x+3)=6$
51. $(2x-3)^2=8x$
52. $\frac{x^2+4}{3}-\frac{x}{6}=\frac{1}{2}-\frac{x^2+3}{4}$
53. $\frac{x^2}{3}-\frac{x(x-1)}{4}+\frac{5}{6}=\frac{1}{2}(x^2+1)$
54. $x^2+x-2=0$
55. $3x^2+9x-30=0$
56. $(x-\frac{1}{2})(x+\frac{1}{5})=0$
57. $x(x-2)-5x^2=x+3$
58. $(x+1)(x-1)=2(x+2)^2$
59. $x^2+7x-8=5x^2-1$
60. $(x+7)x-5x^2=(x+1)^2$
61. $3x^2=0$
62. $-5x^2-3=0$
63. $x^2-3=0$
64. $2x^2+3=0$
65. $(x-2)^2-4=0$
66. $3x^2-27=0$
67. $x^2-4x+8=0$
68. $10x^2-3x+1=0$
69. $3x^2+5x-2=0$
70. $x^2+x+4=0$

Sin resolver las ecuaciones, di cuántas soluciones tienen:

1. $16x^2+1=0$ **2.** $x^2+4x-12=0$ **3.** $-9x^2=12x+4$
4. $9x^2=-360$ **5.** $20x+4x^2=-25$ **6.** $x^2+x=-4$

Factorizar las siguientes ecuaciones:

1. $9x^2-1=0$
2. $2x^2+x=0$
3. $x^2-4x+4=0$
4. $2x^2+5x+2=0$

Escribir una ecuación de 2º grado cuyas soluciones sean:

1. 1 y -2
2. 3/2
3. 0 y -5/3
4. No tenga solución

ECUACIONES RACIONALES

1. $x+\frac{2}{x}=3$

2. $x+\frac{12}{x}=7$

3. $\frac{x^2+5}{x+1}=\frac{7}{2}$

4. $x+1=\frac{6}{x}$

5. $\frac{2}{2x^2+3}=\frac{5}{x-2}$

6. $\frac{3x-7}{5x^2+1}=\frac{2}{3}$

7. $\frac{1}{x-1}+\frac{3}{x-1}=6$

8. $\frac{x}{x+1}+\frac{x}{x+4}=1$

9. $\frac{2x}{x+2}+\frac{x+2}{2x}=2$

10. $\frac{9}{x}-\frac{x}{3}=2$

11. $x+\frac{1}{x+3}=5$

12. $x+\frac{1}{x-3}=5$

13. $\frac{2-x}{2}+\frac{4}{2+x}=1$

14. $\frac{x-2}{5}=\frac{2}{x+1}$

15. $\frac{1}{x}+\frac{3}{2}=\frac{1}{x+3}$

16. $\frac{x}{9}=\frac{2}{x-3}$

17. $\frac{x}{x+1}+\frac{2}{x-1}=\frac{8}{x^2-1}$

18. $\frac{x+3}{x-5}+\frac{x-1}{x-3}=1$

19. $\frac{3}{x+3}+\frac{1}{6}=\frac{2}{x-2}$

20. $\frac{5}{x-2}+\frac{x-2}{x+2}=2$

21. $\frac{4}{2x-1}-\frac{3}{2x+1}=\frac{1}{2}$

22. $\frac{3x+3}{12x-6}=\frac{x-9}{7(x-6)}$

23. $\frac{x+7}{2x-7}=\frac{x-5}{x+5}$

24. $\frac{-2x+5}{3x+4}=\frac{x+1}{x-1}$

25. $\frac{2x+1}{x-2}=\frac{x-1}{x+2}$

26. $\frac{x}{x-2}-\frac{4}{x+2}=\frac{32}{x^2-4}$

27. $\frac{1}{x}-\frac{1}{6}=\frac{1}{x+1}$

28. $\frac{5(x-1)}{x+1}=\frac{2x+1}{x-1}$

29. $\frac{2x+3}{4x-3}=\frac{3x+1}{3x-1}$

30. $\frac{3(x-5)}{2}+\frac{5}{x}=\frac{x}{5}$

31. $\frac{x+6}{x-6}+\frac{x-6}{x+6}=\frac{17}{4}$

32. $\frac{3x-5}{5x+15}=\frac{x+5}{6x+10}$

33. $\frac{2x-1}{x+1}-\frac{x-7}{x-1}=4-\frac{3x-1}{x+2}$

34. $\frac{2}{x-1}-\frac{5}{2}=\frac{1-x}{2}$

35. $\frac{20}{x+1}+\frac{5x-5}{x^2-1}=\frac{52}{x-1}-\frac{40}{x+1}$

36. $\frac{4}{x-2}+\frac{5}{x+2}=\frac{8}{x^2-4}$

37. $\frac{x+8}{x-1}-\frac{x+4}{x+1}=\frac{12x}{x^2-1}$

38. $\frac{10}{x+10}-\frac{5}{x+2}=0$

39. $\frac{2+\frac{x+1}{x-1}}{1-\frac{x-1}{x+1}}=\frac{3x}{2}$

40. $\frac{2}{x+\frac{1}{1+\frac{x+1}{x+2}}}=\frac{6}{3x-1}$

ECUACIONES BICUADRADAS

1. $x^4 - 13x^2 + 36 = 0$

2. $144x^4 - 25x^2 + 1 = 0$

3. $4x^4 - 17x^2 + 4 = 0$

4. $x^4 + 4x^2 + 3 = 0$

5. $x^4 - 8x^2 - 9 = 0$

6. $6x^4 - 11x^2 + 3 = 0$

7. $8x^4 - 2x^2 = 1$

8. $x^4 + 16x^2 - 225 = 0$

9. $9x^4 = -5x^2 + 4$

10. $x^4 - \frac{11}{6}x^2 + \frac{1}{2} = 0$

11. $x^2(3x^2 + 2) = 4(x^2 - 3) + 13$

12. $(x^2 - 25)(x^2 - 16) = 0$

13. $\frac{x^2}{x^2 - 1} + \frac{x^2}{x^2 - 4} = 4$

14. $x^4 = -144 + 25x^2$

15. $36x^4 + 1 = 13x^2$

16. $25 - 26x^2 = -x^4$

17. $(x^2 - 5)(x^2 - 3) = 1$

18. $\frac{x^2 - 6}{x^2 - 6} = \frac{21 - x^2}{2x^2 - 23}$

19. $\frac{x^2 + 1}{x} + \frac{x}{x^2 - 1} = \frac{19x}{12}$

20. $2x^4 - 32x^2 = 0$

ECUACIONES IRRACIONALES

CON UN SÓLO RADICAL

1. $\sqrt{x} = -6$

2. $x + \sqrt{4x + 1} = 5$

3. $\sqrt{x} - 16 = 0$

4. $\sqrt{x^2 - 5} = 2$

5. $\sqrt{10x^2 - 9} = 3x$

6. $x - \sqrt{25 - x^2} = 1$

7. $-3 + \sqrt{x} = 3 - x$

8. $2 + \sqrt{x - 5} = 13 - x$

9. $3x - 3\sqrt{x + 3} = x + 3$

10. $x + 2\sqrt{x - 1} - 4 = 0$

CON DOS RADICALES

11. $\sqrt{x + 20} - \sqrt{x - 1} = 3$

12. $\sqrt{x + 3} + \sqrt{x + 4} = 1$

13. $\sqrt{2x^2 - 4x} = \sqrt{4x - 6}$

14. $5 - \sqrt{x} = 6 + \sqrt{x}$

15. $\sqrt{x + 2} + \sqrt{2x + 2} = x$

16. $\sqrt{2x + 1} + \sqrt{3x + 4} = 1$

CON TRES RADICALES

17. $\sqrt{x - 4} + \sqrt{x + 4} = \sqrt{2x}$

18. $\sqrt{x + 6} + \sqrt{x + 1} = \sqrt{7x + 4}$

OTRAS

19. $\frac{x}{\sqrt{x}} = x - \sqrt{x}$

20. $\frac{2 + \sqrt{4x}}{4 - \sqrt{x}} = \frac{4 + \sqrt{x}}{\sqrt{x}}$