

## ECUACIONES Y SISTEMAS – 4º ESO

1.  $4(x+2)^2 - 3 = 2x + 3$  ( $x = -1; x = -\frac{5}{2}$ )
2.  $\frac{2x+3}{5} - \frac{x-5}{4} = 2x$  ( $x = 1$ )
3.  $x^4 - x^3 - 11x^2 - x - 12 = 0$  ( $x = -3; x = 4$ )
4.  $\frac{2x+1}{2x} - 3x = 1 - x$  ( $x = \pm \frac{1}{2}$ )
5.  $\sqrt{x-2} - 1 = x - 9$  ( $x = 11$ )
6.  $2x^4 + x^2 - 3 = 0$  ( $x = \pm 1$ )
7.  $\frac{3}{x} - 1 = \frac{18}{x^2} - 2$  ( $x = 3; x = -6$ )
8.  $x + \sqrt{2x+7} = 4$  ( $x = 1$ )
9.  $x^4 - 11x^2 + 30 = 0$  ( $x = \pm\sqrt{5}; x = \pm\sqrt{6}$ )
10.  $x^3 + 2x^2 - 13x + 10 = 0$  ( $x = -5; x = 1; x = 2$ )
11.  $2(x-1)^2 + 3x = x + 2$  ( $x = 0; x = 1$ )
12.  $\frac{3x-1}{5} - \frac{5x-2}{10} = 2x$  ( $x = 0$ )
13.  $\frac{2}{x} - 1 = \frac{x-2}{x-1}$  ( $x = 2; x = 1/2$ )
14.  $\frac{3x}{x-2} + x = 12$  ( $x = 3; x = 8$ )
15.  $\sqrt{x+6} - 10 = x - 4$  ( $x = -6; x = -5$ )
16.  $5x^4 - 19x^2 - 4 = 0$  ( $x = \pm 2$ )
17.  $\frac{1}{x} + 4x = 4$  ( $x = 1/2$ )
18.  $\sqrt{7-x} = x - 1$  ( $x = 3$ )
19.  $x^4 + 5x^2 + 4 = 0$  (No tiene)
20.  $\frac{(x+1)^2}{4} - x = x - 2$  ( $x = 3$ )
21.  $2^x + 2^{x+1} - 2^{x-1} = 5$  ( $x = 1$ )
22.  $4^{3x-5} = 256$  ( $x = 3$ )
23.  $3^{2x-1} = 5^{3x}$  ( $x \approx 0,42$ )

24.  $\left(\frac{3}{2}\right)^{2x-5} = \frac{8}{27}$  (x = 1)
25.  $3^{2x} + 3^x = 2$  (x = 0)
26.  $2 \cdot 5^{4x} = 250$  (x =  $\frac{3}{4}$ )
27.  $9^x - 6 \cdot 3^x + 9 = 0$  (x = 1)
28.  $7^{5x-2} = 24$  (x ≈ 0,73)
29.  $\log 2x + \log 5 = 1$  (x = 1)
30.  $2 \log x - \log 4 = 0$  (x = 2)
31.  $\ln(x+1) - \ln(x-3) = \ln 2$  (x = 7)
32.  $3 \log_2 x + \log_2 125 = 0$  (x =  $\frac{1}{5}$ )
33.  $\frac{1}{2} \log x = -1$  (x = 0,01)
34.  $x^2 = 2 + y$   
 $3x - y = 2$
35.  $xy = 2$   
 $x + 3y = 5$
36.  $2x^2 - y^2 = 1$   
 $x + y = 0$
37.  $y^2 + 2xy = 1$   
 $x + 3y = 3$
38.  $\frac{1}{x} = 2y$   
 $8x - y = 0$
39.  $(x+1)^2 + y = 4$   
 $x + 3y = 7$
40.  $x + y^2 = 5$   
 $x = 4y$
41.  $\frac{x+1}{2y} = 1$   
 $y^2 - x = 4$
42.  $\sqrt{x} = y + 1$   
 $x - 5y = 5$
43.  $3x - y = -2$   
 $\log x + \log y = \log 5$
44.  $2x - 7y = 13$   
 $\log x - \log y = 1$
45.  $x + y = 0$   
 $2^x + 2^y = \frac{17}{4}$

**Soluciones (sistemas):** 34. x = 0, y = -2; x = 3, y = 7 35. x = 2, y = 1; x = 3, y = 2/3 36. x = 1, y = -1; x = -1, y = 1 37. x = 0, y = 1 ; x = 12/5, y = 1/5 38. x = 1/4, y = 2; x = -1/4, y = -2 39. x = -2, y = 3 ; x = 1/3, y = 20/9 40. x = -20, y = -5; x = 4, y = 1 41. x = -3, y = -1; x = 5, y = 3 42. x = 25, y = 4; x = 0, y = -1 43. x = 1 , y = 5 44. x = 10 , y = 1 45. x = 2 , y = -2 ; x = -2 , y = 2