

Problema 81 Unos problemas para ejercitarse:

1. $5 \log 2x = 20$ Sol: $x = 5000$
2. $3 \log 5x = -9$ Sol: $x = 0,0002$
3. $\log \frac{2x-4}{5} = 2$ Sol: $x = 252$
4. $\log(x+1)^2 = 2$ Sol: $x = 9$; $x = -11$
5. $\log(7x+15) - \log 5 = 1$ Sol: $x = 5$
6. $\log \frac{x}{2} = 1 + \log(21-x)$ Sol: $x = 20$
7. $\log \frac{10}{x} = 2 - 2 \log x$ Sol: $x = 10$; $x = 0$
8. $2 \log x - \log(x^2 - 2x + 6) = 0$ Sol: $x = 3$
9. $\log(2x-3) + \log(3x-2) = 2 - \log 25$ Sol: $x = 2$; $x = \frac{1}{6}$
10. $\log(3x^2 - 2) = 1 + \log(x-1)$ Sol: $x = 2$; $x = \frac{4}{3}$
11. $\log x^2 + 3 \log x = 2$ Sol: $x = 10^{\frac{2}{5}}$
12. $2 \log x^2 - 2 \log x = 2$ Sol: $x = 10$
13. $\log x^2 + 1 = \log x^3$ Sol: $x = 10$
14. $\log(1-x) + \log x = 1$ Sol: No tiene solución real.
15. $\log x - \log(1-x) = 1$ Sol: $x = \frac{10}{11}$
16. $\log x + 2 = \log x^3$ Sol: $x = 10$
17. $\log(1+x) + \log(1-x) = 2$ Sol: No tiene solución real.
18. $\log(2x+7) - \log(x-1) = \log 5$ Sol: $x = 4$
19. $\frac{\log(35-x^2)}{\log(5-x)} = 3$ Sol: $x = 3$; $x = 2$
20. $\log x^2 - \log \frac{10x+11}{10} = 1$ Sol: $x = 11$; $x = -1$
21. $\log(2x+2) + \log(x+3) = \log 6$ Sol: $x = 0$, $x = -4$
22. $\frac{\log 2 + \log(x^2-2)}{\log(2x-2)} = 2$ Sol: $x = 2$
23. $\log(x+6) - \frac{1}{2} \log(2x-3) = 2 - \log 25$ Sol: $x = 6$; $x = 14$
24. $\log x = \log 2 + 2 \log(x-3)$ Sol: $x = \frac{9}{2}$; $x = 2$
25. $2 \log x = 2 + \log x$ Sol: $x = 0$; $x = 2$

26. $\log 8 + (x^2 - 5x + 7) \log 3 = \log 24$ Sol: $x = 3$; $x = 2$
27. $2 \log x - \log 16 = \log \frac{x}{2}$ Sol: $x = 0$; $x = 8$
28. $\log(2x+4) + \log(3x+1) - \log 4 = 2 \log(8-x)$ Sol: $x = -42$ $x = 3$
29. $\frac{\log(35-x^3)}{\log(5-x)} = 3$ Sol: $x = 3$ $x = 2$
30. $\frac{\log 2 + \log(11-x^2)}{\log(5-x)} = 2$ Sol: $x = \frac{1}{3}$ $x = 3$
31. $\log(5x+4) - \log 2 = \frac{1}{2} \log(x+4)$ Sol: $x = 0$
32. $(x^2 - x + 3) \log 4 = 3 \log \frac{1}{4}$ Sol: No tiene solución.