

## 1. RESOLVER LAS SIGUIENTES ECUACIONES LOGARÍTMICAS

- a)  $2 \log x - \log(x+6) = 3 \log 2$  (Soluc:  $x=12$ )
- b)  $4 \log_2(x^2+1) = \log_2 625$  (Soluc:  $x=\pm 2$ )
- c)  $\log(x^2+1) - \log(x^2-1) = \log \frac{13}{12}$  (Soluc:  $x=\pm 5$ )
- d)  $\log(x-1) = 2$  (Soluc:  $x=101$ )
- e)  $\ln(x+2) = 1$  (Soluc:  $x=e-2$ )
- f)  $\ln(x-3) + \ln(x+1) = \ln 3 + \ln(x-1)$  (Soluc:  $x=5$ )
- g)  $2 \log^2 x + 7 \log x - 9 = 0$  (Soluc:  $x_1 = 10; x_2 = \sqrt{10} / 10^5$ )
- h)  $2 \log x^2 + 7 \log x - 9 = 0$  (Soluc:  $x = \sqrt[11]{10^9}$ )
- i)  $2 \ln(x-3) = \ln x - \ln 4$  (Soluc:  $x=4$ )
- j)  $\log(x+3) - \log(x-6) = 1$  (Soluc:  $x=7$ )
- k)  $\log 10^{x-1} = 2$  (Soluc:  $x=3$ )
- l)  $\log(x+9) = 2 + \log x$  (Soluc:  $x=1/11$ )
- m)  $\log(x+1) + \log(x-1) = 1/100$  (Soluc:  $x = \sqrt{1 + \sqrt[100]{10}}$ )
- n)  $\log \sqrt{3x+5} + \log \sqrt{x} = 1$  (Soluc:  $x=5$ )
- o)  $\log(x^2 - 7x + 110) = 2$  (Soluc:  $x_1=2; x_2=5$ )
- p)  $2 \ln x + 3 \ln(x+1) = 3 \ln 2$  (Soluc:  $x=1$ )
- q)  $\log(x^2 + 3x + 36) = 1 + \log(x+3)$  (Soluc:  $x_1=1; x_2=6$ )
- r)  $\ln x + \ln 2x + \ln 4x = 3$  (Soluc:  $x=e/2$ )
- s)  $4 \log x - 2 \log(x-1) = 2 \log 4$  (Soluc:  $x=2$ )
- t)  $\ln(x-1) + \ln(x+6) = \ln(3x+2)$  (Soluc:  $x=2$ )
- u)  $2 \log x + \log(x-1) = 2$  (Soluc:  $x=5$ )
- v)  $2 \log(x+9) - \log x = 2$  (Soluc:  $x \approx 1,81$ )
- w)  $\log(2x+6) - 1 = 2 \log(x-1)$  (Soluc:  $x_1=2; x_2=1/5$ )
- x)  $\log(x+11) - 2 \log x = 1$  (Soluc:  $x=11/10$ )
- y)  $\log(6x-1) - \log(x+4) = \log x$  (Soluc:  $x=1$ )
- z)  $\log x^2 + \log x^3 = 5$  (Soluc:  $x=10$ )