

Fonction Logarithmique

1. Résous les équations logarithmiques suivantes.

a) $\log_3 4x = 3$

$x = 6,75$

b) $\log (5 - x) = 0$

$x = 4$

c) $\ln 6x = 2$

$x = 1,23 \approx e/6$

d) $\log_{1/2} (x - 6) = 3$

$x = 49/8$

e) $\log_2 \frac{x-5}{4} = 4$

$x = 69$

f) $\log_2 16 = 3x$

$x = 4/3$

g) $\frac{\log_3 x}{2} = 1$

$x = 9$

h) $\log_x 6 = 1/2$

$x = 36$

i) $2 \log x = 6$

$x = 1000$

j) $\log_3 (2x - 5) = \log_3 7$

$x = 6$

k) $2 \log_6 x - \log_6 25 = 0$

$x = 5$

l) $\ln \left(\frac{2-x}{3} \right) = \ln \left(\frac{x}{2} \right)$

$x = 4/5$

m) $\log (3x + 4) = \log x$

$x = \text{impossible}$

n) $\log_5 x - 1 = 2$

$x = 125$

o) $\log(7 - 2x) = 2 - \log 35$ p) $\log_2(x + 1) + \log_2 5 = 3$ q) $\log(x + 3) - \log x = 1$
 $x = 145/20$ *$x = 9/5$* *$x = 1/3$*

$$\log 35(7 - 2x) = 2$$

$$\log_2 5(x + 1) = 3$$

$$\log(x + 3)/x = 1$$

r) $\log_4 x + 2 \log_4 3 = \log_4(x - 8)$
 $x = \text{impossible}$

s) $\log_{1/2}(3 - 4x) = \log_{1/2}(x + 2) + 3$
 $x = 2/3$

$$\log_4 9x = \log_4(x - 8)$$

$$\log_{1/2}(3 - 4x)/(x + 2) = 3$$

t) $\frac{1}{2} \log(x + 75) = 1 + \log 3$ u) $\log_2 15 - \frac{1}{2} \log_2 x = 3$ v) $\log x + 1 = \log(x + 1)$
 $x = 825$ *$x = \frac{225}{64}$* *$x = 1/9$*

$$1) \frac{1}{2} \log 9 + \log (2x - 7) = \log (x - 1)$$

$$x = 4$$

$$2) \log_3 (2x - 5) - 2 \log_3 4 = \log_3 x - 1$$

$$x = -3/2 \text{ c'est impossible}$$

$$\log_3(2x-7) = \log(x-1)$$

$$3) \log_3 (3x + 8) + \log_3 10 - 2 \log_3 5 = 1$$

$$x = -1/6$$

$$4) \frac{\log(7x-5)}{\log(2x-3)} = 1$$

$$x = 4/5 \text{ impossible}$$

$$5) \log (x + 3) + \log x = 1$$

$$x = \cancel{5} \quad x = 2$$

$$6) \frac{\log(2+x)}{\log(x-4)} = 2$$

$$x = 7 \quad x = \cancel{2}$$

$$7) \log_2 (x + 3) + \log_2 (x - 5) = 4$$

$$x = \cancel{-4.66} \quad x = 6.66$$

complétion de
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