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g) $\log_{25}\left(\frac{1}{125}\right) = \log_{5^2}(5^3) = x \Leftrightarrow (5^2)^x = 5^3$

$\log_2 u = x \Leftrightarrow 2^x = u$

$25 = 5 \cdot 5$

$125 = 5 \cdot 5 \cdot 5$

$5^{2x} = 5^3$

$2x = 3$

$x = 1{,}5$

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$2\ln(x) \quad 3\ln(x) \quad 4\ln(x)$

8) $\ln(x) + \ln(x^2) + \ln(x^3) + \ln(x^4) + \ln(x^5) + \ln(x^6)$

$+ \ln(x^7) + \ln(x^8) + \ldots + \ln(x^{20})$

$\log_2(x^r) = r \cdot \log_2(x)$ ou $\boxed{\ln(x^r) = r\ln(x)}$

$$Q(t) = Q_0 \cdot e^{ct}$$

$$Q = Q_0 \cdot e^{ct}$$

$$\frac{Q}{Q_0} = e^{ct} \quad \Leftrightarrow \quad c \cdot t = \ln\left(\frac{Q}{Q_0}\right)$$

$$\Leftrightarrow \quad t = \frac{1}{c} \cdot \ln\left(\frac{Q}{Q_0}\right)$$

$$A = e^{B} \quad \Leftrightarrow \quad \ln A = B$$

$$\ln A = \ln\left(e^{B}\right)$$

$$= B$$

$$30000 = 10000 \cdot e^{c \cdot t}$$

$$3 = e^{ct}$$

$$\ln 3 = ct$$

$$\boxed{\frac{\ln 3}{c} = t}$$

MODÈLE EXPONENTIEL

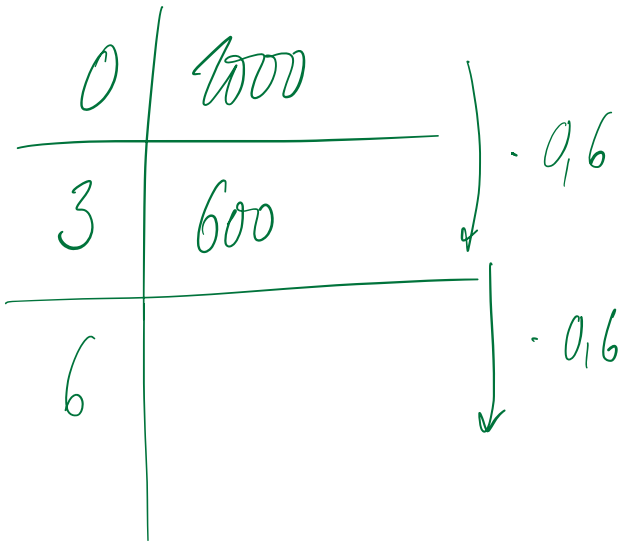
$$Q(t) = \boxed{Q_0 \cdot e^{c \cdot t}} = Q_0 (e^c)^t$$

$$Q(t) = 10000 \cdot 2^{\frac{t}{12}}$$

$$= 10000 \left(2^{\frac{1}{12}}\right)^t$$

0	10000
12	20000

$$20000 = 10000 \cdot e^{c \cdot 12}$$


0
1000
3
600
6
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