

Biomatemáticas

Logaritmo

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$$\begin{aligned} 7^2 &= 49 \rightarrow \text{Log}_7 49 = 2 & \text{Log}_2 4 &= 2 \\ 6^3 &= 216 \rightarrow \text{Log}_6 216 = 3 & \text{Log}_3 3 &= 1 \\ 3^4 &= 81 \rightarrow \text{Log}_3 81 = 4 & \text{Log}_5 25 &= 2 \\ 2^5 &= 32 \rightarrow \text{Log}_2 32 = 5 \end{aligned}$$

$$\begin{aligned} \text{Log}_7 49 &= 2 & \text{Log}_3 81 &= 4 \\ \text{Log}_3 27 &= 3 & \text{Log}_{10} 100 &= 2 \\ \text{Log}_2 32 &= 5 & \text{Log}_5 125 &= 3 \\ \text{Log}_{13} 13 &= 1 & \text{Log} 1000 &= 3 \\ \text{Log}_{17} 1 &= 0 & \text{Log}_{45} 45 &= 1 \\ \text{Log}_6 216 &= 3 & \text{Log}_{2671} 2671 &= 1 \end{aligned}$$

$$\textcircled{1} \text{Log}_2 8 + \text{Log}_3 9 + \text{Log}_5 5 = 3 + 2 + 1 = 6$$

$$\textcircled{2} \text{Log}_2 32 + \text{Log}_3 81 - \text{Log}_7 49 = 5 + 4 - 2 = 7$$

$$\begin{aligned} 5 \log_2 2 + 7 \log_3 27 - 2 \log_5 25 \\ 5(1) + 7(3) - 2(2) \\ 5 + 21 - 4 = 22 \end{aligned}$$

$$\begin{aligned} 2 \log 100 - 4 \log_2 32 - 3 \log_{15} 1 \\ 2(2) - 4(5) - 3(0) \\ 4 - 20 - 0 = -16 \end{aligned}$$

$$\text{Log}_7 \left(\frac{1}{7} \right) = -1$$

$$\text{Log}_8 \left(\frac{1}{8} \right) = -1$$

$$\text{Log}_{17} \left(\frac{1}{17} \right) = -1$$

$$\text{Log}_{10} \left(\frac{1}{10} \right) = -1$$

$$a^{-n} = \frac{1}{a^n}$$

Exemplo:

$$\text{Log}_3 \left(\frac{1}{27} \right) = \text{Log}_3 \left(\frac{1}{3^3} \right) = \text{Log}_3 (3^{-3}) = -3$$

$$\text{Log}_2 \left(\frac{1}{32} \right) = -5$$

$$\text{Log}_4 \left(\frac{1}{64} \right) = -3$$

$$\text{Log}_3 \left(\frac{1}{81} \right) = -4$$

$$\text{Log}_6 \left(\frac{1}{36} \right) = -2$$

$$\text{Log}_7 \left(\frac{1}{49} \right) = -2$$

$$\text{Log}_9 \left(\frac{1}{729} \right) = -3$$

$$\text{Log}_5 \left(\frac{1}{125} \right) = -3$$

$$\text{Log} \left(\frac{1}{10000} \right) = -4$$

$$\log \left(\frac{1}{2} \right)^{64} = -6 \quad 2 \log 5 \left(\frac{1}{25} \right) - 4 \log 2 \left(\frac{1}{16} \right) - 3 \log 3 \left(\frac{1}{27} \right)$$

$$\text{Log} \left(\frac{1}{5} \right)^{25} = -2$$

$$2(-2) - 4(-4) - 3(-3)$$

$$\text{Log} \left(\frac{1}{3} \right)^{27} = -3$$

$$\log \left(\frac{1}{10} \right)^{100} = -2$$

$$-4 + 25 = 21$$