



Licenciatura en medicina

Biomatemáticas

**Logaritmos**

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# Biomatemáticas

## Logaritmos

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$$\begin{aligned} + \text{Log}_2 8 = 3 & \quad + \text{Log}_3 9 = 2 & \quad + \text{Log}_5 1 = 0 = 5^0 = 1 \\ 2^3 = 8 & \quad 3^2 = 9 & \quad + \text{Log}_{10} 1 = 1 = 10^1 = 10 \end{aligned}$$

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

$$\begin{aligned} + \text{Log}_2 4 = 2 & \quad + \text{Log}_5 25 = 2 & \quad + \text{Log}_3 27 = 3 \\ 2^2 = 4 & \quad 5^2 = 25 & \quad 3^3 = 27 \end{aligned}$$

$$\begin{aligned} + \text{Log}_3 3 = 1 & \quad + \text{Log}_7 49 = 2 & \quad + \text{Log}_2 32 = 5 \\ 3^1 = 3 & \quad 7^2 = 49 & \quad 2^5 = 32 \end{aligned}$$

$$\begin{aligned} + \text{Log}_3 81 = 4 & \quad + \text{Log}_{10} 100 = 2 & \quad + \text{Log}_5 125 = 3 \\ 3^4 = 81 & \quad 10^2 = 100 & \quad 5^3 = 125 \end{aligned}$$

$$\begin{aligned} + \text{Log}_{13} 13 = 1 & \quad + \text{Log}_{17} 1 = 0 & \quad + \text{Log}_6 216 = 3 \\ 13^1 = 13 & \quad 17^0 = 1 & \quad 6^3 = 216 \end{aligned}$$

$$\begin{aligned} + \text{Log}_{10} 1000 = 3 & \quad + \text{Log}_{45} 45 = 1 & \quad + \text{Log}_{267} 1 = 0 \\ 10^3 = 1000 & \quad 45^1 = 45 & \quad 267^0 = 1 \end{aligned}$$

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

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

$$+ 5 \log_2 2 + 7 \log_3 27 - 2 \log_5 25 = 22$$
$$5(1) + 7(3) - 2(2) = 22$$

$$+ 2 \log_2 100 - 4 \log_2 32 - 3 \log_5 1 = -16$$
$$2(2) - 4(5) - 3(0) = -16$$

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

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

$$7^{-1} = 1/7$$

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

$$8^{-1} = \frac{1}{8}$$

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

$$17^{-1} = 1/17$$

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

$$10^{-1} = 1/10$$

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

$$2^{-3} = \frac{1}{2^3} = \frac{1}{8}$$

$$3^{-4} = \frac{1}{3^4} = \frac{1}{81}$$

$$+ \text{Log}_2 \left( \frac{1}{16} \right) = -4$$

$$2^4 = 16$$

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

$$3^3 = 27$$

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

$$2^5 = 32$$

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

$$3^4 = 81$$

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

$$7^2 = 49$$

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

$$5^3 = 125$$

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

$$4^3 = 64$$

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

$$6^2 = 36$$

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

$$9^3 = 729$$

$$+ \text{Log}_{10} \left( \frac{1}{10000} \right) = -4$$

$$10^4 = 10000$$

$$+ \text{Log} \left( \frac{1}{2} \right) 64 = -6$$

$$2^6 = 64$$

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

$$3^3 = 27$$

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

$$5^2 = 25$$

$$+ \text{Log} \left( \frac{1}{10} \right) 100 = -2$$

$$10^2 = 100$$



$$+ 3 \log_2 \left(\frac{1}{2}\right) + 5 \log_3 \left(\frac{1}{9}\right) - 7 \log_5 125 = -3 - 10 - 21 =$$
$$3(-1) \quad + 5(-2) \quad - 7(3) = \quad -34$$

$$+ 2 \log_5 \left(\frac{1}{25}\right) - 4 \log_2 \left(\frac{1}{16}\right) - 3 \log_3 \left(\frac{1}{27}\right) = -4 + 16 + 9 =$$
$$2(-2) \quad - 4(-4) \quad - 3(-3) \quad \quad \quad 21$$
$$- 4 \quad \quad \quad 16 \quad \quad \quad 9$$