

EXPOENTES E RADICAIS

$$x^m \cdot x^n = x^{m+n}$$

$$\frac{x^m}{x^n} = x^{m-n}$$

$$(x^m)^n = x^{m \cdot n}$$

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

$$(x \cdot y)^n = x^n \cdot y^n$$

$$\left(\frac{x}{y}\right)^n = \frac{x^n}{y^n}$$

$$x^{\frac{1}{n}} = \sqrt[n]{x}$$

$$\sqrt[n]{\frac{x}{y}} = \frac{\sqrt[n]{x}}{\sqrt[n]{y}}$$

$$\sqrt[n]{x \cdot y} = \sqrt[n]{x} \cdot \sqrt[n]{y}$$

$$\sqrt[m]{\sqrt[n]{x}} = \sqrt[n]{\sqrt[m]{x}} = \sqrt[m \cdot n]{x}$$

$$x^{\frac{m}{n}} = \sqrt[n]{x^m} = (\sqrt[n]{x})^m$$

LOGARITMOS

$$\log_a x = y \Leftrightarrow a^y = x$$

$$\log_a a^x = x$$

$$\log_a 1 = 0$$

$$\log x = \log_{10} x$$

$$\ln x = \log_e x$$

$$a^{\log_a x} = x$$

$$\log_a a = 1$$

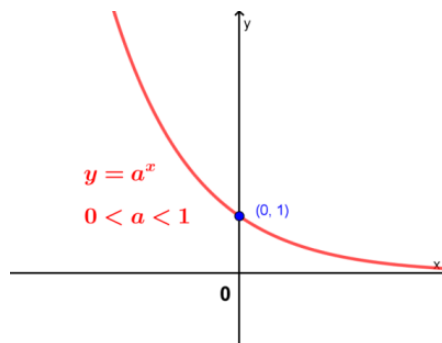
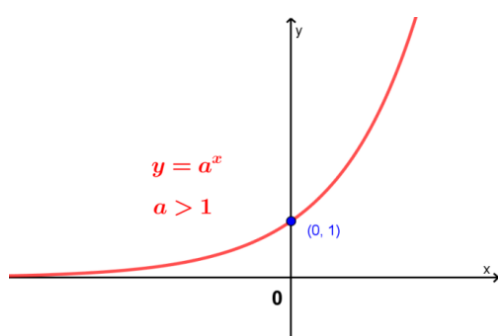
$$\log_a x \cdot y = \log_a x + \log_a y$$

$$\log_a \left(\frac{x}{y}\right) = \log_a x - \log_a y$$

$$\log_a x^b = b \cdot \log_a x$$

$$\log_b x = \frac{\log_a x}{\log_a b}$$

FUNÇÃO EXPONENCIAL



FUNÇÃO LOGARÍTMICA

