

$$\sqrt{2} = 1,4142 \dots$$

$$2x^2 + 6x + c = 0$$

$$\frac{-b \pm \sqrt{\Delta}}{2a}$$

# logarithmes

$$10^0 = 0,1$$

$$\cdot 1,1$$

$$\log_{1,1} 2 \Leftrightarrow$$

$$1,1^t = 2$$

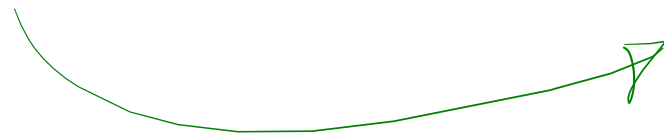
$$\frac{\text{LN } 2}{\text{LN } 1,1}$$

2023

2024

400

440





1996



2021



2022



2023



2024



$$x = \log_2 b \iff 2^x = b$$

$$\log_{10} 100 = 2$$

$$10^2 = 100$$

$$\log_{1.1} 2 \approx 7$$

$$1.1^7 = 2$$

$$\log_2 b$$

=

$$\frac{\text{LN } b}{\text{LN } 2}$$

$$= \frac{\text{LOG}_e b}{\text{LOG}_e 2}$$

1 [2nd] LN<sup>e<sup>x</sup></sup>

$e^x$

$10^x$

$$e \approx 2,71$$

$$\ln(x) = \log_{2.718281} x = \log_e x$$

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

$$\log_{243} \left( \frac{1}{243^1} \right) = \log_{243} \left( 243^{-1} \right) = -1$$

$$2^{-n} = \frac{1}{2^n}$$



$$\log_{\frac{1}{8}}(64) = \log_{\frac{1}{8}} 8^2 = \log_{8^{-1}} 8^2$$

$$= \log_{\frac{1}{8}} \left(\frac{1}{8}\right)^{-2}$$

1.2.3

$$\log(xy) = \log x + \log y$$

$$\log(x^r) = r \log(x)$$

$$\log(\sqrt{x}) = \log(x^{\frac{1}{2}}) = \frac{1}{2} \log(x)$$

$$\log_2(2^n) = n$$

$$\log_5 125 = \log_5(5^3) \\ = 3$$

$$\ln(e^2) = \log_e e^2 = 2$$