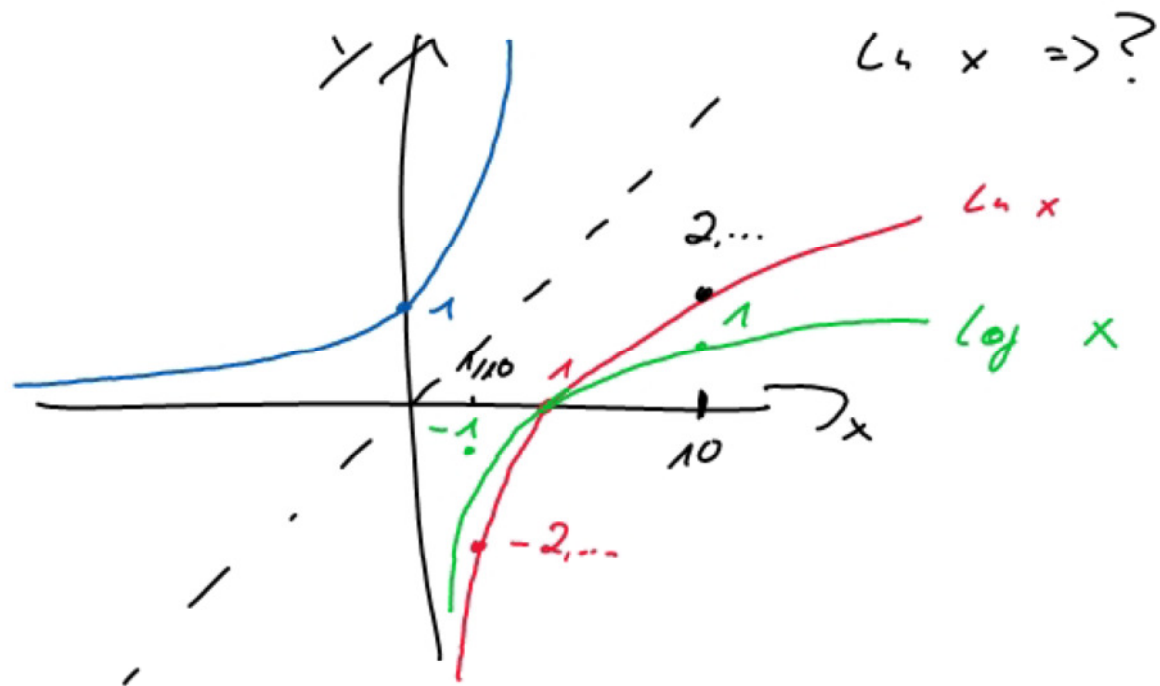


e^x



$$\underbrace{\log_2 32}_{\text{Basis 2}} = \log_2 2^5 = 5 \cdot \underbrace{\log_2 2} = 5 \cdot 1 = 5$$

$$\log_2 2 = x$$

$$2^x = 2^1 \quad x = 1$$

$$\log 0,001 \Rightarrow 0,001 = \frac{1}{1000} = \frac{1}{10^3} = 10^{-3} \Rightarrow \log 10^{-3} = -3$$

$$\ln \frac{1}{\sqrt[5]{e^{21}}} \Rightarrow \frac{1}{\sqrt[5]{e^{21}}} = \frac{1}{(e^2)^{2,1}} = \frac{1}{e^{4,2}} = e^{-4,2} \Rightarrow \ln e^{-4,2} = -4,2$$

$$\ln \sqrt[3]{256} \Rightarrow \sqrt[3]{256} = (256)^{1/3} = (2^8)^{1/3} = 2^{8/3} \Rightarrow \ln 2^{8/3} = \frac{8}{3} \ln 2$$

$$16^{\ln 3} \Rightarrow (2^4)^{\ln 3} = 2^{4 \cdot \ln 3} = 2^{\ln 3^4} = 3^4 = 81$$

$$1/100^{\log 0,5} \Rightarrow (10^{-2})^{\log 1/2} = 10^{-2 \cdot \log 1/2} = 10^{\log (1/2)^{-2}} = (1/2)^{-2} = 2^2 = 4$$

$$\sqrt[3]{e}^{\ln 1/27} \Rightarrow (e^{1/3})^{\ln 1/27} = e^{1/3 \cdot \ln 1/27} = e^{\ln (1/27)^{1/3}}$$

$$(1/27)^{1/3} = \sqrt[3]{\frac{1}{27}} = 1/3$$

$$8^{\log 3} + 2 \cdot \log \frac{1}{1000} - 3 \cdot e^{4 \cdot \ln \sqrt{2}} + \frac{1}{2} \cdot \log \left(\frac{1}{16} \right) + 100^{2 \log 2} \\ - \frac{1}{2} \cdot \log \left(\frac{1}{4} \right)^3$$

$$\left(2^3 \right)^{\log 3} + 2 \cdot \log 10^{-3} - 3 e^{\ln \left(2^{1/2} \right)^4} + \frac{1}{2} \log 2^{-4} + \left(10^2 \right)^2 \cdot \log 2 \\ - \frac{1}{2} \log \left(2^{-2} \right)^3$$

$$2^{3 \cdot \log 3} + 2 \cdot (-3) - 3 e^{\ln 2^2} + \frac{1}{2} \cdot (-4) + 10^{4 \log 2} - \frac{1}{2} \log 2^{-6}$$

$$2^{\log 3^3} - 6 - 3 \cdot 4 - 2 + 10^{\log 2^4} - \frac{1}{2} \cdot (-6)$$

$$27 - 6 - 12 - 2 + 16 + 3 = 26$$

$$3 \cdot \log x - 2 \log \sqrt[2]{x} - 3 \cdot \log 4 + 4 \cdot \log \sqrt{x} =$$

$$\frac{1}{2} \cdot (\log x^4 - \log 256) - \frac{1}{3} \cdot \log 18$$

$$\log x^3 - \log \sqrt[4]{x^2} - \log 4^3 + \log x^2 = \log x^2 - \log 256^{\frac{1}{4}} - \log \left(\frac{1}{8}\right)^{\frac{1}{3}}$$

$$\log \frac{x^3 \cdot x^2}{\sqrt[4]{x} \cdot 4^3} = \log \frac{x^5}{2^2 \cdot \frac{1}{2}} \quad | \uparrow 10^x$$

$$\frac{x^5 \cdot x^1}{4^4} = \frac{x^1}{2} \quad \Leftrightarrow \frac{x^7}{2^4} = \frac{x^1}{2} \quad | : x^1 \cdot 2^4$$

$$x^5 = 2^7$$

$$x = \sqrt[5]{2^7}$$