

Exponents

$$y = A e^{\frac{x}{\tau}}$$

Annotations:
- τ : time constant
- A : initial value
- e : base

How to use

$$b^x$$

$\Rightarrow$

$$\log_b b^x = x \log_b b = x$$

$$\log_b x$$

$\Rightarrow$

$$b^{\log_b x} = x$$

Some notes

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

Annotation: $\log$ assumed a "10"

$$\log_e x = \ln x$$

$$\log_2 x = \log_2 x$$

like: $\sqrt{2} = 2^{\frac{1}{2}}$

Annotation: $\sqrt{\quad}$ assumed a "2"

Rules:

$$\log_b a^x = (x)(\log_b a)$$

$$b^{\log_b a} = a$$

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

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

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

comes from:

$$a^x a^y = a^{x+y}$$

$$\frac{a^x}{a^y} = a^{x-y}$$