Random Stuff

$\log(x) := \ln(x) := E^{-1}(x) \quad (x \in (0, \infty))$

$\log(1) = 0, \quad \log(e) = 1$

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

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

$\log_a(x) = \frac{\log_b(x)}{\log_b(a)}$

$\log(x^m) = m \cdot \log(x)$

$a^x = e^{x \cdot \log(a)}$

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

$\log(a^x) = \log\left(e^{x \cdot \log(a)}\right) = x \cdot \log(a)$

$(a^x)^y = a^{x \cdot y}$