$\log_b a = x \iff b^x = a$

Logarithmic Form

Exponential Form

 $\log_5 125 = x$

$\log_4 64 = x$

 $\log_{64} 2 = x$

 $\log_{0.01} = x$

$\log_2 \frac{1}{8} = x$

 $\log_6 2 = x$

$\log_2 2 + \log_3 3 \log_4 4 = x$

 $11 \times \log 10 + \log 1 = x$

Properties of Logarithms

Product Property: $\log_b(mn) = \log_b(m) + \log_b(n)$

Power Property:
$$\log_b(m^n) = n \cdot \log_b(m)$$

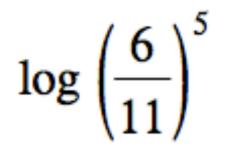
Quotient Property: $\log_b(m/n) = \log_b(m) - \log_b(n)$

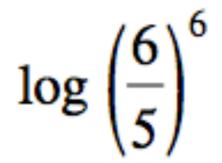
log (6 · 11)

$\log(5 \cdot 3)$

 $\log(3\cdot 2^3)$

 $\log\left(x\cdot y\cdot z^2\right)$





 $\log \sqrt[3]{x \cdot y \cdot z}$

 $\log \frac{2^4}{5}$

Change of base formula

 $\log_{c} a = \frac{\log a}{\log c}$

log ₃ 3.3

log₂ 30

log₇ 8.7

log₆ 13

log₉ 71

log ₃ 62