Properties of Logarithms

Recall: $\log_a x = y \longleftrightarrow x = a^y$

- $\log_a 1 = 0$ ex. $\log_2 1 = 0$ since $2^0 = 1$
- $\log_a a = 1$ ex. $\log_5 5 = 1$ since $5^1 = 5$
- $\log_a a^n = n$ ex. $\log_5 5^2 = 2$ since $\log_5 25 = 2$
- $a^{\log_a M} = M$ ex. $10^{\log_{10} 100} = 100$ since $10^2 = 100$