

Summary

Rules for Operating with Logarithms

1. $\log_b a = n$ iff $b^n = a$
2. $\log_b x_1 = \log_b x_2$ iff $x_1 = x_2$
3. $10^{\log x} = x$
4. $\log ab = \log a + \log b$
5. $\log \frac{a}{b} = \log a - \log b$
6. $\log a^n = n \log a$
7. $\log_b n = \frac{\log_a n}{\log_a b}$

Logarithms now allows us to solve exponential equations when we cannot make the bases equal