# Precalculus
# Additional basic algebraic properties of the logarithm

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2019

## Proposition (Additional Properties of Logarithmic Functions)

*If* $a, b > 0$, *then*

1. $\log_{\frac{1}{a}} x = -\log_a x$
2. $\log_a b = \frac{1}{\log_b a}$.
3. $\log_{a^k} b = \frac{1}{k} \log_a b$.