

# Algebra

## Logarithm rules

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$$\log mn = \log m + \log n$$

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$$\log \frac{m}{n} = \log m - \log n$$

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$$\log m^n = n \cdot \log m$$

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$$\log_n m = \frac{\log m}{\log n}$$

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$$\log_x x = 1$$

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$$e^{\log x} = x$$

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$$\log e^x = x$$

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$$\log_a 1 = 0$$

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$$\log_a a = 1$$

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$$a^{\log_a n} = n$$

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$$\log_a b = \frac{1}{\log_b a}$$