

Logarithmic Rule of Equality

$$\text{If } \log_b x = \log_b y, \text{ then } x = y$$

As long as we have a log equal to a log....
...we can set the arguments equal to one another and solve.

Logarithmic Equation

$$\log_2(x + 6) = \log_2(2x - 4)$$

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Logarithmic Equation

$$\log_4(x - 2) = \log_4(3x - 8) \qquad \log_4(x + 1) + \log_4 3 = \log_4(4x - 10)$$

Logarithmic Equation

$$\log(x + 1) + \log(x - 2) = \log 4$$

Logarithmic Equation

$$\log_4(x - 2) = 2$$

$$\log_2(x - 3) + \log_2 4 = 5$$

Logarithmic Equation

$$\log_2 x + \log_2(x - 2) = 3$$

Logarithmic Equation

$$\log_b x = \log_b y$$


$$\text{then } x = y$$

Logarithmic Form

$$\log_b x = y$$


$$x = b^y$$

Exponential Form