

Algebra 2

Logarithmic Functions, Equations, & Inequalities

The video covers the following exercises. Please print this sheet and work along!

In the boxes below, please fill in the appropriate numbers or letters.

$$2^3 = 8$$

$$\log_{\square} \square = \square$$

$$\square^{\square} = \square$$

$$\log_{\square} \square = \square$$

$$\log_4 16 = \square$$

$$\log_7 7 = \square$$

$$\log_{21} 21 = \square$$

When the *base* and the resulting *number* are the same, the exponent always = ___

$$\log_{99} 1 = \square$$

Any number to the 0th power always = ___

$$\log_8 x = \frac{2}{3}$$

$$x^{-2} = \frac{\boxed{}}{\boxed{}}$$

$$\log_{\frac{1}{4}} x = -2$$

$$\log_5 2x - 3 = 1$$

$$\log_5 2x - 3 \leq 1$$

The resulting number within a logarithm must be >

Please prove that the left side of the equals sign is the same as the right:

$$\log_4 16 = 2\log_4 4$$

$$\log_9 [\log_3 (\log_2 8)] = 0$$