Pre-Calculus 12 **Ch.5 - Logarithmic Functions and their Graphs**

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5.1 Basic Properties of Exponential Graphs	Do example 3	p. 204-205 3-8 (all)
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RULES YOU NEED TO KNOW….

Definition of a Log: $\text{if } a = b^y \text{ then } \log_b a = y$

Product Rule: $\log_b AB = \log_b A + \log_b B$

Quotient Rule: $\log_b \frac{A}{B} = \log_b A - \log_b B$

Power Rule: $\log_b a^n = n\log_b a$

Change of Base Rule: $\log_b a = \frac{\log_n a}{\log_n b}$

(where, n represents any base - although we usually use base 10 because our calculators operate using base 10)

Some deductive reasoning…

$\text{if } a^x = a^y \text{, then } x = y$ similarly, $\text{if } \log_a x = \log_a y \text{, then } x = y$