

PROPERTIES OF LOGARITHMS

GRAPHIC ORGANIZER

Name	Rule(s)	Example 1	Example 2
BASIC LOGARITHMS	$\log_b b =$; $\log_b 1 =$	Simplify: $\log_{14} 14 =$	Simplify: $\log_3 1 =$
PRODUCT RULE	$\log_b (m \cdot n) =$	Condense: $\log_5 6 + \log_5 7 =$	Expand: $\log_2 63 =$
QUOTIENT RULE	$\log_b \left(\frac{m}{n} \right) =$	Condense: $\log_4 84 - \log_4 12 =$	Expand: $\log 9 =$
POWER RULE	$\log_b m^n =$	Condense: $2 \cdot \log_3 8 =$	Expand: $\log_2 6^{x-1} =$
CHANGE OF BASE FORMULA	$\log_b a =$	Using a common base, evaluate the expression below. $\log_7 32 =$	

REMEMBER: BASE 10 LOGS ARE COMMON LOGS AND WRITTEN WITHOUT A BASE! **(log x)**