

Honors Algebra II

Unit 6 – Exponents and Logs



**MATH, ENGINEERING,
AND SCIENCE ACADEMY**

Exponents & Logs Review

Name: Papi Keys

Expand		
$\ln(xy)^2$ $2 \ln x + 2 \ln y$	$\log_2 \left(\frac{3x^3}{z^5} \right)$ $9 \log_2 x - 5 \log_2 z$	$\log_a 12x^3 \sqrt{y}$ $\log_a 12 + 3 \log_a x + \frac{1}{2} \log_a y$
Condense		
$3 \log_4 x - 5 \log_4 y$ $\log_4 \left(\frac{x^3}{y^5} \right)$	$2 \ln x + \frac{1}{2} \ln y$ $\ln(x^2 \sqrt{y})$	$5 \log x - (3 \log x + 2 \log z)$ $\log \left(\frac{x^5}{x^3 z^2} \right)$
Solve the following exponential equations (Round to Thousandths)		
$2^{x-1} = 2^{2x-4}$ $x = 3$	$5^{2x} = 25^{3x+2}$ $x = -1$	$2^{5x} = \sqrt{2}$ $x = \frac{1}{10}$
$8^{x+2} = 16^{x+1}$ $x = 2$	$2(3^x) + 7 = 1465$ $x = 6$	$e^{x-6} = 8$ $x = 8.079$
Solve the following logarithmic equations (Round to Thousandths)		
$\log_{15} t + \log_{15} 3 = 2$ $t = 75$	$\log z - \log 5 = 3$ $z = 5,000$	$\log(t^2 - 6t) = \log 7$ $t = 7$ $t = -1$