

I. Rewrite each expression as either exponential or logarithmic.

1.) $\log_u v = 9$	2.) $m^n = 42$	3.) $\log_2 64 = 6$	4.) $7^3 = 343$
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II. Use the Change of Base Formula (if needed) to evaluate each expression to the thousandths place.

5.) $\log_9 5$	6.) $\log_7 1.37$	7.) $\log_5 84$	8.) $\ln 9.95$	9.) $\log 8$
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III. Evaluate each expression or find the value of x. MUST SHOW WORK for credit!!

10.) $\log_2 x = 5$	11.) $\log_4 16 = x$	12.) $\log_x 81 = 4$	13.) $\log_5 \left(\frac{1}{125} \right)$
14.) $\log_8 \left(\frac{1}{4} \right) = x$	15.) $4^{2\log_4 6}$	16.) $e^{\frac{1}{2}\ln 9}$	17.) $\log_3 \sqrt{27}$
18.) $\log 2 + \log 5$	19.) $\log_x 6 = \frac{1}{2}$	20.) $\log_{81} 9$	21.) $\log_x 3 = \frac{1}{3}$
22.) $\left(\frac{1}{10} \right)^{4\log 5}$	23.) $\log_2 4 + 3\log_2 2$	24.) $\log_4 192 - \log_4 3$	25.) $2\log_5 25 - \log_5 125$