

ALL WORK MUST BE SHOWN TO RECEIVE CREDIT. Even if you are able to solve algebraically, you must show how you have done so (if you rewrote a log as an exponential, show the rewrite). Please make work neat and organized. Round to the nearest thousandths place. Circle your final answer(s). 3 points each

1.) $\log_4 16 = x$

2.) $\log_2(x + 4) = 3$

3.) $\log_3(x^2) = \log_3(4) + \log_3(x - 1)$

4.) $2 - 3 \ln(x) = 5$

5.) $\ln(x) + \ln(3) = 2$

6.) $\ln(x - 2) + \ln(2x - 3) = 2 \ln(x)$

7.) $\ln(2x) = 2.4$

8.) $\ln \sqrt{x+1} = 2$

9.) $\left(\frac{1}{27}\right)^{x-3} = 3^{4x}$

10.) $\log_3(-x^2) = \log_3(8x - 20)$

11.) $e^x = 10$

12.) $\left(\frac{1}{3}\right)^x = 7$

13.) $2e^{2x} + 5 = 13$

14.) $6 - 9^{x+1} = 4$

15.) $e^{2x} - 8e^x + 15 = 0$

16.) $\ln(x) - \ln(4) = 0$

17.) $\left(\frac{1}{3}\right)^x = 81$

18.) $10 + 2 \log_3(x - 3) = 20$