$\qquad$ Date: $\qquad$

Solve each equation. Show all of your work. You may use a calculator. Be sure to SHOW the EQ you are using when you use a calculator to help solve. Round all final answers to THREE decimal places.

YOU MUST KNOW WHEN TO REWRITE AS A LOG OR AS AN EXPONENTIAL EQ OR NOT TO REWRITE.
The test has 12 problems similar to this review. NOT exactly the same, just similar. If you choose to not do this review and then also study, you will NOT be prepared enough to pass the test. You are getting to the time of year where Precalculus requires more effort than what you have been able to get away with in the past.

1. $4^{x+1}=4^{3}$
2. $5^{x}=\frac{1}{625}$
3. $\left(\frac{1}{8}\right)^{x}=64$
4. $e^{x}=14$
5. $\ln x-\ln 5=0$
6. $\log _{x} 625=4$
7. $\ln (2 x-1)=5$
8. $8^{3 x}=360$
9. $7-2 e^{x}=1$
10. $5\left(2^{3-x}\right)-13=100$
11. $\log _{5}(3 x+2)=\log _{5}(-x)$
12. $7 \log _{4}(0.6 x)=12$
13. $\log \left(x^{2}+19\right)=2$
14. $\ln (x+1)^{2}=2$
15. $\log _{4} x-\log _{4}(x-1)=\frac{1}{2}$
