

Show all work and simplify all answers before circling/boxing them. If you do the problem incorrectly, or don't show sufficient work, you will be asked to rewrite the problem for full credit.

Due next class. Students who turn assignments in late forfeit their ability to rewrite those problems for credit.

1. Simplify $\ln\left(\frac{1}{e^4}\right)$
2. Simplify $\log_3 \frac{1}{81}$
3. Simplify $\log_{1/5}\left(\frac{1}{625}\right)$
4. Simplify $\log_{64}(4)$
5. Simplify $\log_{1/3} 9$
6. Solve $10^x - 3 = 997$
7. Solve $10^{5x} = 10,000$
8. Solve $3e^x + 5 = 23$
9. Solve $4^x + 10 = 26$
10. Solve $10^{2x-1} = 145$
11. Solve $\log_5 x = 4$
12. Solve $8 \log_7 9x = 16$
13. Solve $7 \ln x - 4 = 7$
14. Solve $16 - 4 \log_2 x = 4$
15. Solve $e^{x-1} = 16$