Math 101 (03): Homework #9

due Tuesday, Oct.26

All even problems from the Chapter 9 (pages 82-84).

Compute.

2. $\log_3 81$

4. $\log_{25} 125$

6. $\log_{27} 1/3$

8. $\log_{2/3} 9/4$

10. $\log_{0.1} 0.001$

Simplify or label "cannot be simplified".

12. $5^{\log_5 32}$

14. $25^{\log_5 9}$

16. $2^{\log_6 40}$

18. $(\log_3 x)(\log_3 y)$

20. $\log_3 x + \log_3 y$

22. $(\log_3 5)(\log_5 3)$

Defferentiate

24. e^{7x^2+x}

26. $e^{x^{-5/3}}$

28. $e^{\cos x}$

30. $e^{x^3 \cos(x^2)}$

32. e^{e^x} (This means $e^{(e^x)}$.)

34. x^e

36. $(1/7)^x$

38. $3^{\sqrt{x}}$

40. $(\sqrt{5})^{x^2}$

42. $\ln(x^2+1)$

44. $\ln(x^4-x^2+1)$

46. $\ln(e^x)$

48. $\cos(\ln x)$

50. $\ln \dfrac{x^2+1}{x^2+2}$

52. $\ln 3x$

54. $\ln \ln x$

56. $\sqrt{\ln x}$