Math 122- Frequently Missed Exam Questions

Name:

Due: May 1, 2018 (5:00 PM)

Instructions: This assignment is due to my mailbox on the 4th floor of LeConte. Each question has a point value. Unless otherwise specified, you are required to **SHOW ALL YOUR WORK** to receive full credit. Only solutions that are **near perfect** will receive credit. All points earned will be added to your final exam score. You are welcome to discuss the questions with your classmates and the instructor; however, **all work must be your own and reflect your understanding of the material.**

1 Exam 1

(1 pt) Problem 7, Section 1.6. Decompose (simplify) the following logarithm as much as possible using the rules of logarithms. Clearly justify each simplification with the appropriate rule of logarithms.

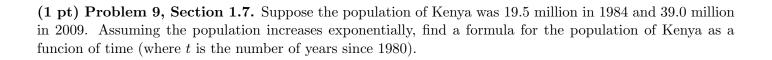
$$\log_5\left(\frac{(x^3+y^5)\sqrt[7]{z}w^2}{(x+y)z^5}\right)$$

(2 pts) Problem 8, Sections 1.5-1.6. Solve the following exponential and logarithmic equations. Clearly justify each step with the appropriate rule of exponents or logarithms.

(a)
$$8^{x^2} = 8^{3x+10}$$

$$\log_2\bigg(\log_2\bigg(\log_2(2^{4^x})\bigg)\bigg) = 3$$

Note: The exponent is 4^x , NOT 4x.



2 Exam 2

(1 pt) Problem 3, Sections 3.3-3.4. Suppose f(1) = 2 and f'(1) = -3. If $g(x) = \sqrt{f(x)}$, determine g'(1).

(1 pt) Problem 10, Section 4.1. Find the constants a, b such that the minimum for the parabola $f(x) = x^2 + ax + b$ is at the point (3, 9).

3 Exam 3

