MATH 108 QUIZ 1

NAME: _____ Date:_____

INSTRUCTIONS

- This quiz is ***open book*** and ***open notes***. This means that you may refer to your textbook, notes, and online classroom materials, but ***you must work independently and may not consult anyone***.
- **Show work/explanation where indicated. Answers without any work may earn little, if any, credit.** You may type or write your work in your copy of the quiz, or if you prefer, create a document containing your work. Scanned work is acceptable also. **In your document, be sure to include your name.**

1. (8 pts)

(a) Let $x = \log_6 \frac{1}{1296}$ State the corresponding exponential form of this logarithmic equation.

(b) Determine the numerical value of $\log_6 \frac{1}{1296}$ in simplest form. Work optional.

2. (8 pts) Use an appropriate change of base formula to approximate $\log_3 36$ to the nearest hundredth. Show some work.

3. (8 pts) Expand $\log\left(\frac{x^3y}{\sqrt{10z}}\right)$ and simplify as much as possible. Assume all quantities represent positive real numbers. Work optional.

4. (8 pts) Use the properties of logarithms to write the expression as a single logarithm and, if possible, simplify. Work optional.

(1/3) $\log_4(x) - \log_4(y) - 2\log_4(z)$

5. (8 pts) Solve: $25^x = \frac{1}{125}$ **Show work.**