

NAME \_\_\_\_\_

3 April 2009

**MATH 121 — QUIZ VIII**

PUT AWAY YOUR CALCULATOR – YOU MAY NOT USE IT ON THIS QUIZ

1) What is the exact value of  $\log_2 2^{-13}$  ?

2) What is a number whose log base 8 is  $-\frac{1}{3}$  (*i.e.*, what is  $x$  so that  $\log_8 x = -\frac{1}{3}$ )?

3) What is the exact value of  $5^{(\log_5 3 + \log_5 2)}$  ?

4) Expand as much as possible, using the laws of logarithms, the expression  $\ln \frac{5x\sqrt{1+3x}}{(x-4)^3}$ .