

# Exam 5 Study Guide

Name \_\_\_\_\_

Answer the questions in the spaces provided. If you run out of room for an answer, continue on the back of the page.

1. Evaluate each logarithm:

(a)  $\log_2(16)$

$\log_5\left(\frac{1}{625}\right)$

(b)  $\log_3(3^2)$

$\log(100)$

2. Solve the following exponential equations for x:

(a)  $3^x = 81$

$8^x = 128$

3. Rewrite as the sums and differences of logarithms:

(a)  $\ln\left(\frac{a^2+(ab)^2}{c}\right)$

4. Rewrite as a single logarithm:

(a)  $3\log_3(x) - \log_3(y^{\frac{1}{3}}) + \log_3\left(\frac{y^3}{z}\right)$