Math 160, Section B
Spring 2008 Name: _____

Quiz Two

Show all work. No credit for final answer only. Attach papers if needed. You have 20 mins.

1. (*4 points*)

$$f(x) = \frac{x+4}{x-4}$$

Sketch the graph. Label any asymptotes, holes and intercepts.

2. (*4 points*) For the radical function $f(x) = \sqrt[4]{(6x+1)^5}$, rewrite it as rational exponent function and write down the domain using interval notation.

3. (*4 points*) Use the properties of logarithms to rewrite the following as simplest form of the sum and/or difference of logarithms.

$$\log_3 \frac{4\sqrt{3}}{9}$$

4. (*4 points*) The percentage of waste generated in the United States that is yard waste can be modeled by

$$f(x) = 19.12(.944)^x \quad 1 \leq x \leq 6$$

where x represents the number of years since 1990 and $f(x)$ represents the percentage of waste generated in the United States that is yard waste

a) Evaluated $f(5)$ and interpret.

b) Classify the model as exponential growth or exponential decay(state the reason or show the graph).

c) Compute the difference quotient for $x = 1$ and $\Delta x = 3$ and interpret.

5. (*4 points*) If Joe deposits \$2,000 into an account that yields 8% annual interest, how much will be in the account aftet 8 years if the interest

a) is not compounded (i.e. simple interest model)?

b) is compounded quarterly?

c) is compounded continously?