Quiz 4C, Precalculus-04
Dr. Graham-Squire, Fall 2013

Name: _____

1. (2 points) Use the definition of logarithm to rewrite the equation into exponential form and then solve it.
$$\log_2 8 = x$$

2. (4 points) Use laws of logarithms to expand the expression as much as possible:

$$\ln\left(\frac{x^2}{y^4\sqrt{x+2}}\right)$$

3. (4 points) An infectious disease is modeled by the equation

$$v(t) = \frac{4,000}{5 + 1995e^{-0.97t}}$$

where t is in days and $v(t)$ is the number of people who are infected with the disease.

(a) How many infected people are there initially?

(b) How many people will become infected as t goes to infinity?

(c) Suppose you wanted to know on what day the 40th person is infected. Explain how you would do it (you would need a calculator to get the exact answer, but you should be able to find an expression that represents the answer).