

Math 111 Quiz #4
April 27, 2010

Name: _____

Show all work and answers on a separate sheet with a box around your final answer. You should use a calculator for this quiz.

1. (1 pt.) If you increase \$300 by 20% and then decrease it by 20%, how much is left?
2. The population of bacteria (in thousands) is given by $B = g(t) = 30(2)^t$ at hour t .
 - (a) (1 pt.) What is the initial bacteria population?
 - (b) (2 pt.) How many bacteria will be present after 2 hours?
3. (2 pts.) Find a formula for the balance of an account B (in dollars) in terms of time t (in years) given that the account grows by 15% each year and the initial investment is \$700.
4. (4 pts.) Find the equation of the exponential function that goes through the points $(1, 1)$ and $(-1, \frac{1}{16})$.

Note: Exponential Functions: $f(x) = a \cdot b^x$ for $a \neq 0$, $b > 0$, $b \neq 1$