Type your answers to each problem in this document. You can add spaces between the problems as needed.Post your solutions by Tues, March 6, 2012.

1. The exponential function for the amount of money accumulated in a mutual fund is , where *P* is the initial principal invested, *r* is the annual dividend rate and *t* is time in years. Suppose you intend to invest a $10,000 inheritance in a fund that has a historical interest rate of 9% (*r* = .09). Show the graph of the value of your investment over 15 years. Compute the value of the investment after 10 years using the function above. But with the Economy in the tank, the 9% may be grossly optimistic. Re-compute and graph the value using an interest rate of 4%. Find the difference in your earnings.
2. The Reliability function, , indicates the probability of survival over time and applies to many electronic products. You will note that this is an exponential function; *t*  is time (in hours) and *m*  is a parameter called the MTTF or Mean Tine To Failure. Suppose for your 4G Ipod the reliability function;  *m* is 5,000 hours. Draw a graph of this curve ( 0 ≤ t ≤ 10,000), and describe it’s features (i.e. increasing or decreasing, y-intercept, asymptotes). Compute is the probability of survival at the 5,000 hour point using the Reliability function above.
3. Evaluate the following using your Scientific Calculator (round your answer to 4 decimal places)

a)  b)  c)  d)  e)  

1. Solve the following:
2. Write as a single logarithm



1. Simplify the expression



1. Solve for *x*



1. Solve for *x*

