NAME_____ 14 November 2008

MATH 156.6 — QUIZ VIII

A random number generator is supposed to produce numbers which are uniformly distributed from 0 to 1. In particular, this means that the mean should be $\mu = .5$ and the standard deviation $\sigma = .2887$. Suppose we suspect that the numbers are just *off* in some way, so we run the generator 100 times and get a sample mean of $\overline{X} = .4365$.

(a) Do the hypothesis test for the claim that "the average is off from what it should be." That is, define terms and set up the hypotheses, compute the test statistic and p-value, and come to some conclusion about this claim. You should assume that the population standard deviation **is** that value $\sigma = .2887$.

(b) Explain the meaning of the p-value here.