Name:

Quiz 7, Attempt 1

Duracell claims that their new batteries hold at least 3.4 amp hours. Assume that the number of amp hours of these new batteries is normally distributed with unknown mean and variance. You have just enough cash in your pocket to purchase 42 of these new batteries. You wish to test Duracell’s claim by determining if the claim is consistent with observed data. You determine that a type I error rate of 0.05 is appropriate. After testing you find that the sample mean of the 42 batteries is 3 and the sample standard deviation is 1.

What is the null hypothesis?

What is the alternative hypothesis?

What is the test statistic? Use big letters to indicate that the test statistic is RANDOM.

What is the rejection region? In other words, you should reject the null hypothesis if… Use little letters here to indicate that we are now talking about the OUTCOME of the test statistic.

What is the outcome of the test statistic?

What will your conclusion be if the outcome of the test statistic lands in the rejection region?

What will your conclusion be if the outcome of the test statistic does not land in the rejection region?

Quiz 5, Attempt 2

Suppose you have a random sample of size 31 from a normal population with unknown mean and variance. Find a 90% equal tailed confidence interval for the **variance** of the population. The outcome of the sample mean is 250 and the outcome of the sample standard deviation is 10.