Suppose you calculate a sample mean of $\bar{x}=1.42$ with sample standard deviation S=35.52. There are n=274 observations.

Problem 1. Find the 95% confidence interval.

Problem 2. Find the 90% confidence interval.

Problem 3. Test $H_0: \mu = 0$ against $H_1: \mu \neq 0$ at 95% confidence.

Problem 4. Find the *p*-value of the test in problem 3.