

Suppose you calculate a sample mean of $\bar{x} = 50.06$ with sample standard deviation $S = 11.27$. There are $n = 185$ observations.

Problem 1. Find the 95% confidence interval of μ .

Problem 2. Find the 90% confidence interval of μ .

Problem 3. Test $H_0 : \mu = 52$ against $H_1 : \mu \neq 52$ at 95% confidence (i.e. at 5% significance).

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