Math 1600, Section 12, Fall 2016 – Statistics
Lab 12 – November 10, 2016

Names: Group:

1. In a study to determine whether a certain stimulant produces hyperactivity, 55 mice were injected with 10 micrograms of the stimulant. Afterward each mouse is given a hyperactivity rating score. The mean score was 14.9 and the standard deviation was 2.8.

    a. Construct a point estimate for μ, the population mean score, and give its 95% error margin.

    b. Construct a 99% confidence interval for μ, the population mean score.

2. Determine the sample size n that is required for estimating the population mean, when:

a. $\sigma = 4.8$,   95% error margin = .75

b. $\sigma = 135$,   80% error margin = 4.5

c. $\sigma = .082$,   98% error margin = .025

3. On the basis of the data of a large sample from a population, one finds that the 95% confidence interval for the population mean μ is (52.6, 58.2). Use this information to determine
a. A point estimate of μ and its 95% error margin

b. An 80% confidence interval for μ