HW 4

1. Assume that the standard deviation of the heights of five-year-old boys is 3.5 inches. How many five-year-old need to be sampled if we want to be 90% sure that the population mean height is estimated within .5 inch?

2. An employee of an on-campus copy center wants to determine the mean number of copies before a cartridge needs to be replaced. She records the life length in thousands of copies for 43 cartridges and obtains

n=43, $\bar{x}$ =8.12, s=1.78 thousand copies

Obtain a 90% confidence interval for the population mean, μ, number of copies in thousands before a cartridge should be replaced.

3. Data on the average weekly earnings were obtained from a survey of 50 nonsupervisory production workers in the mining industry. The sample mean and standard deviation were found to be $630 and $35, respectively.

(a) Estimate the true mean weekly earnings and determine the 95% error margin.

(b) Construct a 95% confidence interval for the true mean weekly earnings.