

- 1. Compute the margin of error and find the 95% confidence interval for the protein intake for a sample of $n = 267$ men, which has a sample mean of $\bar{x} = 77.0$ grams and a sample standard deviation of $s = 58.6$ grams.**

2. A sample of 62 households found the total weekly garbage production had mean $\bar{x} = 27.4$ pounds with a standard deviation of $s = 12.5$ pounds. Estimate the population mean for weekly garbage production with a 95% confidence interval.

3. University of Maryland researchers investigated the body temperature of 106 subjects. The sample mean of the data set was $\bar{x} = 98.20^\circ$ F and the standard deviation for the sample was $s = 0.62^\circ$ F. Estimate the population mean with a 95% confidence interval.

4. Find the sample size needed to construct a 95% confidence interval estimate of the population mean.

Margin of error = 1 cm standard deviation = 3.5 cm

Margin of error = 2 yards standard deviation = 16 yards

5. You want to study housing costs by sampling recent house sales in various regions. Your goal is to provide a 95% confidence interval estimate of the housing cost. Previous studies suggest that the population standard deviation is about \$7,200. What sample size (at a minimum) should be used to ensure that the sample mean is within;
 - a. \$500 of the true population mean?
 - b. \$100 of the true population mean?