

6. Use the confidence interval to find the estimated margin of error. Then find the sample mean.
- A biologist reports a confidence interval of (2.0,3.4) when estimating the mean height (in centimeters) of a sample of seedlings.
- The estimated margin of error is .
- The sample mean is .
-
7. Find the minimum sample size n needed to estimate μ for the given values of c , s , and E .
- $c = 0.98$, $s = 5.3$, and $E = 2$
- Assume that a preliminary sample has at least 30 members.
- $n =$ (Round up to the nearest whole number.)
-
8. You are given the sample mean and the sample standard deviation. Use this information to construct the 90% and 95% confidence intervals for the population mean. Interpret the results and compare the widths of the confidence intervals.
- A random sample of 50 home theater systems has a mean price of \$125.00 and a standard deviation is \$18.80.
- Construct a 90% confidence interval for the population mean.
- The 90% confidence interval is (,).
- (Round to two decimal places as needed.)
- Construct a 95% confidence interval for the population mean.
- The 95% confidence interval is (,).
- (Round to two decimal places as needed.)
- Interpret the results. Choose the correct answer below.
- ☐ A. With 90% confidence, it can be said that the population mean price lies in the first interval. With 95% confidence, it can be said that the population mean price lies in the second interval. The 95% confidence interval is wider than the 90%.
 - ☐ B. With 90% confidence, it can be said that the population mean price lies in the first interval. With 95% confidence, it can be said that the population mean price lies in the second interval. The 95% confidence interval is narrower than the 90%.
 - ☐ C. With 90% confidence, it can be said that the sample mean price lies in the first interval. With 95% confidence, it can be said that the sample mean price lies in the second interval. The 95% confidence interval is wider than the 90%.