1. A random sample of *n* = 144 measurements was selected from a population with unknown mean *μ* and standard deviation σ. Calculate a 90% confidence interval for *μ* if  = 3.55 and *s* = .49.
2. How much money does the average professional football fan spend on food at a single football game? That question was posed to 45 randomly selected football fans. The sample results provided a sample mean and standard deviation of $18.00 and $3.15, respectively. Find and interpret a 99% confidence interval for *μ*.
3. A random sample of 80 observations produced a mean  = 35.4 and a standard deviation *s* = 3.1.
   * 1. Find a 90% confidence interval for the population mean *μ.*
     2. Find a 95% confidence interval for *μ.*
     3. Find a 99% confidence interval for *μ.*
     4. What happens to the width of a confidence interval as the value of the confidence coefficient is increased while the sample size is held fixed?
4. You are interested in purchasing a new car. One of the many points you wish to consider is the resale value of the car after 5 years. Since you are particularly interested in a certain foreign sedan, you decide to estimate the resale value of this car with a 95% confidence interval. You manage to obtain data on 17 recently resold 5-year-old foreign sedans of the same model. These 17 cars were resold at an average price of $13,700 with a standard deviation of $700. Create and interpret a 95% confidence interval for the true mean resale value of a 5-year-old car of that model.