Section 8.5 — Examples

Problem: (Exercise 8.30) Due to a variation in laboratory techniques, impurities in materials, and other unknown factors, the results of an experiment in a chemistry laboratory will not always yield the same numerical answer. In an electrolysis experiment, a class measured the amount of copper precipitated from a saturated solution of copper sulfate over a 30-minute period. The $n = 30$ students calculated a sample mean and standard deviation equal to .145 and .0051 mole, respectively. Find a 90% confidence interval for the mean amount of copper precipitated from the solution over a 30-minute period.

Problem: (Exercise 8.38) A random sample of 300 adults was taken, and 192 of them said that they always vote in presidential elections.

1. Construct a 95% confidence interval for the proportion of adult Americans who say they always vote in presidential elections.

2. An article in *American Demographics* reports this percentage of 67%. Based on the interval constructed in part a), would you disagree with their reported percentage? Explain.

3. Can we use the interval estimate from part a) to estimate the actual proportion of adult Americans who vote in the 2008 presidential election? Why or why not?