

ECO220Y: Homework, Lecture 10

Readings: Chapter 11

Exercises: 6, 7, 9, 13

Problems:

- (1) Recall Problem 3 from HW 9. You were asked to estimate the fraction of the tagged fish in the lake and also the total number of fish in the lake based on your estimate of the fraction. Now, when you learned about confidence interval estimator, re-do the problem using this new method.
- (2) A random sample of 1000 homes finds that 999 have TV sets. Find a 95 percent confidence interval for the percentage of all homes that have TV sets.
- (3) The Nielson television ratings are based on a sample of 1200 households out of a population of 80,000, 000 households. If they estimate that 30 percent of these households were watching a football game, what is their margin for sampling error?
- (4) If we want to halve the size of the confidence interval, then we must double the size of the sample. True or False? Explain.
- (5) Chisler Corporation is considering issuing a three-year warranty for major repairs on its cars. It would like to be 95 percent sure that its estimate of the probability of a major repair is within 0.01 of the actual probability. How many cars must it test to obtain such accurate estimate?