

Homework - Week 8

- **From OpenIntro Statistics, chapter 4:** 4.17 (a-b), 4.18 (a-b), 4.19, 4.20, 4.21 (a-c)
- For the following scenarios, give the required sample size.
 - (a) A university wants to know how much time their students are spending on homework each week to within plus or minus 15 minutes (0.25 hours) with 95% confidence. Previous studies have suggested the standard deviation for weekly study times is about 3 hours.
 - (b) The university would also like to know what proportion of their students utilize university resources, like tutoring help, to within 3.5% with 99% confidence. Previous years found about 35% of students used available resources, but the university thinks that has increased recently.
 - (c) The student association at the university would like to know what proportion of professors offer extra credit in their classes. They plan to gather a random sample of syllabuses and see which mention extra credit. They have no reasonable estimate as to what that proportion might be. They want an estimate within 5% at a 90% confidence level.
 - (d) The university bookstore would like to know how much the average student spends on textbooks each semester to within \$10 (plus or minus) with 95% confidence. From experience, they think that a standard deviation of \$30 is a reasonable estimate.

All submitted files should be PDFs.