

STAT:2010/4200, Statistical Methods and Computing
Instructor: Cowles Spring 2020, Homework 8

Due Thurs. 04/16 at 5:00 p.m. in the ICON dropbox

1. Textbook problems 18.15, 18.24, 19.16, 19.17, 19.18, 19.19, 19.25
2. Textbook problems (use SAS for calculations; write out answers to all parts of each question):
 - 18.40 (enter the data yourself),
 - 18.46 (the baseline and after 20 days variables are in a dataset called `tcells.dat` on the course web page; you will need to calculate the difference in your SAS data step.)
3. For textbook problem 19.42, the data is on the course web page in a file called 'talking2.dat,' with an associated descriptive file called 'talking2.info.' Use SAS to do the parts of those two problems that involve computations. Answer all parts of both questions.
4. For textbook problem 19.49, the data is on the course web page in a file called 'subliminalmath.dat.' Use SAS for computations. Answer all parts of the question.

Note: Use `alpha = <1 - desired level>` in `proc ttest` to specify what level of confidence interval you want, in the same way that you do with `proc means`.

5. Textbook problem 20.32. Check whether the rules of thumb for using the normal theory approximation are met. Then compute the requested confidence interval 3 ways:
 - (a) By hand using the normal approximation.
 - (b) By hand using the plus four method.
 - (c) With SAS to get the exact confidence interval.

Is there very much difference in this case? Why do you think it turned out that way? Also answer part (b) of the question.

6. Textbook problems 20.39 and 20.41. In addition to doing all parts of the problems by hand, use SAS to carry out the hypothesis test. Compare results.
7. Textbook problem 20.44.