

22S:30/105, Statistical Methods and Computing
Instructor: Cowles
Spring 2014, Homework 8

Due: Fri. Apr. 11 in class

1. Textbook problems (do by hand or with calculator): 16.6, 16.8, 16.9, 16.12, 16.26, 16.26, 18.15, 18.24
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. See the data file ‘caffeine.dat’ and associated information file ‘caffeine.info’ on the course web page.
 - (a) Use these data to investigate whether mean Beck depression scores are different in the population of caffeine dependent people who are caffeine- deprived from in the population of caffeine dependent people who are not caffeine-deprived. Will you use a paired t-test or a two-independent-sample t-test? Carry out a graphical check of the assumptions before carrying out your test. Then do the test at significance level $\alpha = .05$, and compute a 95% confidence interval for the difference between the two population means. State your conclusions.
 - (b) Go through the same steps for the ‘beats-per-minute’ variable.