

22S:30/105, Statistical Methods and Computing  
Instructor: Cowles Spring 2013, Homework 8

Due: Fri. Apr. 12 in class

1. Textbook problems (do by hand or with calculator): 16.7, 16.8
2. Textbook problems (use SAS for calculations; write out answers to all parts of each question): 18.7, 18.10
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.