Statistics 411/511
Homework 7
Due in Lab Monday and Tuesday, November 14 and 15

- **Homework Guidelines** Homework must be typed and stapled. Pease label your paper with your name and lab time. See the syllabus for more guidelines.

- **Academic Integrity** You are encouraged to *discuss* the homework with other students, but what you turn in must be your own work in your own words. The syllabus contains more details and links to OSU's Student Conduct Code.

1. Use the data of 6.17 to do the following:

   (a) Calculate half-widths of 95% confidence intervals for all 21 pairwise differences between mean head length using (i) Tukey-Kramer, (ii) Scheffé, (iii) Bonferroni. Note that you are not asked to calculate all 63 intervals. Note also that you don't need the data. Display 6.11 contains summary statistics. The pooled standard deviation and residual degrees of freedom are given in the statement of exercise 6.17. Do not submit R code.

   (b) Estimate the difference between mean head lengths in localities within 20 km to the mainland (but not including the mainland) and localities farther than 20 km to the mainland. State g and $SE(g)$ in a format similar to that in Display 6.4. Then give a statistical conclusion. Do not submit R code for this problem either.

2. Problem 21(b), page 172 You can omit p-values in your answer, but do provide confidence intervals. Do not submit R code for this problem either. [If you really want p-values, you can get them with R's `summary()` applied to the `glht` object produced by `glht()`. See item 4(d) of Lab 7.]