

Homework # 6 assigned 31 March 2003, due 9 April 2003

Read Chapter 10 in Tamhane and Dunlop and Chapter 10 (pages 235-246) in the S-Plus On-line doc manuals. Then do the following problems. Use the function **lm** in S-Plus to fit a linear model. You can say something like **tmp.lm<-lm(y~x,data=dataf)**, where *y* is the response variable in the data frame, *x* is the predictor in the dataframe and *dataf* is the name of the dataframe. Then **summary(tmp.lm)** gives regression coefficients, **summary.aov(tmp.lm)** gives analysis of variance table, **plot(tmp.lm)** gives several diagnostic plots, **fitted(tmp.lm)** gives the fitted values, **resid(tmp.lm)** gives the residuals.. S-Plus will give you most of the numbers you need to answer the questions involving modeling, but please show where these numbers come from.

1. 10.4 In part b, also calculate a 95% confidence interval and a 95% prediction interval.
2. 10.8
3. 10.14
4. 10.16 Since *x* is a factor in this problem, just use functions of 1:10 as the predictor.
5. 10.18 Once again, 1:10 is the predictor.
6. 10.24
7. 10.26
8. 10.30