MATH 2240 – Problem Set #10 (last one!)                    Due Wednesday, April 17


1. Answer Problem 12.38 on p. 679 (CALRAIN dataset).  In addition to the three parts in the book, answer the following.
   (d) Interpret the three slopes in your prediction equation.  Be specific!
   (e) Interpret R-sq and s.  Based on the context of this problem, would you say that R-sq is "large" and 2s is "small"?  Why or why not?


2. Read the intro to Problem 12.39 on p. 680 (EINTELL dataset).
   (a) Use Minitab to generate three scatterplots, one for each of the three predictors.  Do any of the predictors appear to have a linear relationship with the mean project score?  Explain.
   (b) Fit a complete first-order model for project score as a function of the three predictors.  What do the four $p$-values in the ANOVA table tell us?  (Since this is not a life-or-death study, it is reasonable to use $\alpha = .10$.)
   (c) Find, and interpret, a 95% confidence interval for $x_1 = 20, x_2 = 30$, and $x_3 = 25$.
   (d) You should have seen that one of your predictors did not add any information to the model.  Fit another first-order model using the remaining two predictors.
   (e) Based on R-sq(adj), which of the two models would you choose?  Explain.
   (f) You may be surprised to learn that Minitab Assistant (which automatically chooses the "best" model) believes that your model with two predictors is best.  Why do you think it does this?