Note: What the book calls the “Conditions for inference” for regression are what we have been referring to in class as the “Three regression assumptions”.


(2) Chapter 8, question 13 (residual plots), p. 202 [3, p204]

(3) Chapter 8, question 55 (climate change), p. 209 [not in previous edition]

(4) Chapter 8, question 21 (misinterpretations), p. 203 [23, p206]

(5) Chapter 8, question 40 (success in college), p. 206 [28, p207]

(6) Chapter 27, question 1 (hurricane prediction), p. 702 [not in previous edition]

(7) Chapter 27, question 27 (streams), p. 704 [19, p704]
(Note: the degrees of freedom for the t distribution is n – 2 = 161.)

(8) Suppose we have two datasets: dataset 1 has variables \(X_1\) and \(Y_1\), and dataset 2 has variables \(X_2\) and \(Y_2\). \((X_1\) and \(X_2\) are the explanatory variables, and \(Y_1\) and \(Y_2\) are the response variables.) There is a positive linear relationship between \(X_1\) and \(Y_1\), and a positive linear relationship between \(X_2\) and \(Y_2\). Suppose \(Y_1\) has marginal standard deviation 10 and conditional standard deviation 8, and \(Y_2\) has marginal standard deviation 10 and conditional standard deviation 2. For each of \(Y_1\) and \(Y_2\), assume the conditional standard deviation is constant. Which of the following statements is true? (Hint: draw a picture.)
(a) The correlation between \(X_1\) and \(Y_1\) equals the correlation between \(X_2\) and \(Y_2\).
(b) The correlation between \(X_1\) and \(Y_1\) is greater than the correlation between \(X_2\) and \(Y_2\).
(c) The correlation between \(X_1\) and \(Y_1\) is less than the correlation between \(X_2\) and \(Y_2\).
(d) None of the above statements can be determined from the information given.

(9) Chapter 27, question 33 (start the car!), p. 705 [25, p705]
Note: the sample size was \(n = 33\) batteries. Ignore the last of the three plots (labeled “Normal Scores”); we did not cover this in class.