Using the data for problem 6.9 in the textbook, do the following:

1. Make appropriate plots before running a regression analysis. Comment on whether you see any problems.

2. Even if you thought there were problems from step 1 (this isn’t a hint as to whether or not you should have found any), use all of the data to perform a regression analysis. Write out the regression equation you found.

3. Interpret the results, including:
   - Interpretation of each of the coefficients in the context of this example
   - A test for each coefficient, with an explanation in words of the test and the results
   - \( R^2 \) and what it means
   - Root MSE and what it means
   - An overall test for whether regression is useful in this example

4. Provide appropriate plots of residuals and comment on them.