3.16. Refer to Solution concentration Problem 3.15.

a. Prepare a scatter plot of the data. What transformation of Y might you try, using the prototype patterns in Figure 3.15 to achieve constant variance and linearity?

b. Use the Box-Cox procedure and standardization (3.36) to find an appropriate power transformation. Evaluate SSE for A = -.2, -.1,0, .1, .2. What transformation of Y is suggested?

c. Use the transformation Y' = 10gIO Y and obtain the estimated linear regression function for the transformed data.

d. Plot the estimated regression line and the transformed data Does the regression line appear

to be a good fit to the transformed data?

e. Obtain,the residuals and plot them against the fitted values. Also prepare a normal probability

plot. What do your plots show?

f. Express the estimated regression function in the original units.