

## EXERCISE 6

**Purpose:** To learn how to use R to do just about everything that we did in Exercise 5 where we used the P-Q box and overfitting to determine the best Box-Jenkins model for the Lead Production data. Download the R program **Leadprod.R** from the class website to complete the following tasks required of this exercise. You will need to install the R program on your laptop. To do this go to the website **cran.r-project.org** and follow the instructions there. This homework is due **Thursday, October 6**.

- (i) Copy into .jpg files the three graphs that the Leadprod.R program produces, print them out and hand them in with this exercise. These three graphs are (i) a plot of the lead production data, (ii) a plot of the sample ACF and PACF functions associated with the lead production data, and (iii) a plot of the forecasts and their 95% confidence intervals.
- (ii) Report the best Box-Jenkins model determined by the auto.arima function including the coefficient estimates and their standard errors. Write out the model in “intercept” form.