Dry Goods 2003-2004

1. Can you identify holiday periods or special events that cause the spikes in the data?

2. What holiday results in the maximum sales for this department?

3. a) Generate linear and quadratic models for this data.

   b) What is the marginal sales for this department using each model.

   c) Which model do you feel best predicts future trends and explain your rational.

4. Based on the model selected, what type of seasonal adjustments, if any, would be required to meet customer needs?

5. Some items were added or subtracted from the 2003-2004 dry goods department data when compared with the data available for the previous year (2002-2003).
   a) Use your best model for the 2003-2004 data set to predict sales for the next four weeks. Provide chart and model backup for predictions.

   b) Compute the percent rate of increase $\frac{y_2 - y_1}{y_1}$ for the next four weeks using results from part a). Provide appropriate backup material.

   c) Using 2002-2003 data, find the percentage rate of increase for the next four weeks. Provide chart, model and computation backup. Note and discuss differences in part b) and part c) results.