Homework 4 (Due at 6:40pm, Oct 3rd)

Problem 1: Use the oil acquisition costs data from sakai to answer the following questions:

a) Is the (true) average Domestic Crude Oil Refiner Acquisition costs smaller than $20 per Barrel?
b) Is the (true) average Imported Crude Oil Refiner Acquisition costs different from $15 per Barrel?
c) Are the average Domestic and average Imported Crude Oil Refiner Acquisition costs different?
d) Assume the collected data are not related to the dates, then are the average Domestic and average Imported Crude Oil Refiner Acquisition costs different? (Hint: use this dataset to do the two sample t-test.)
e) Use PROC ANOVA to do d) again. Compare the t statistic used in d) and the F statistic in e). Do they have any relationship? Also, compare the p-values.

[Hint: The data does not start from the first line, try options firstobs = 5;
For part a. one sample one-sided t-test;
For part b. one sample two-sided t-test;
For part c. probably a paired t-test is more reasonable;
For part d. two sample t-test; equal variances or unequal? Use the oil acquisition costs2 dataset from sakai to do the two sample t test.]

Include the SAS code and output file and your answer to these questions.

Problem 2: Examine the oil acquisition costs data set again.

Use PROC PLOT to plot:
a) domestic vs date, without any other options
b) imported vs date, with the character '%' as the indicator
c) domestic vs date, and import vs date separately but on the same page.

Include the SAS code and output file.