**BOB’S SERVICE STATION AND DINER – QUESTIONS**

In constructing your report, the following questions are provided as a guide through the analysis portion.

Q. 1. Adjusting for inflation, what are Bob’s profits? How do you make this adjustment? Create a scatter diagram of monthly real profits over the 108-month period. What conclusion can be made from looking at the graph?

Q .2. Use simple regression to see if there is any significant change in real profits over time.

Q. 3. Estimate the demand curves for fuel sales and for restaurant sales. HINT: Use simple regression to estimate the relation between number of sales (or tickets) and price for diesel fuel, gasoline, and finally for restaurant sales. You will need to do three simple regressions.

Q. 4. Determine and discuss the impact of diesel prices on fuel revenues and the impact of gasoline prices on fuel revenues. What is the relationship between meal prices and meals? Define, measure, and discuss the price elasticities. HINT: Find price elasticity of demand by multiplying the slope of the regression line from Excel by the mean real price then divide by the mean quantity demanded.

Q. 5. Use simple regression to estimate the marginal profit contribution from fuel sales. Use it again to estimate the marginal profit contribution from food sales. Compare and interpret your estimates.

Q. 6. What should Bob do? Is there any change in pricing that would make sense? Is selling fuel profitable? Prepare effective graphics and statistics to illustrate your analysis and conclusion.