Name: 10/19/10

**AP Statistics Project #2 (Linear Regression Models)**

Come up with two quantitative variables where you think there may be some sort of relationship between. (Correlation) It must be something where you can gather the data yourself.

1. Explain what your two variables are (explanatory and response) and say how you collected the data.

2. Make a scatter plot with your data and represent it in a table.

3. Find the equation for the least squares regression line for these variables and plot it in the scatter plot.

4. Calculate and interpret the value of “r”, and the correlation coefficient “r2” for your data.

5. Calculate the residuals for all of your data points.

6. Which data points have the largest residuals? (Is there any explanation why they might be very large?)

7. Recalculate the regression equation after removing any data points that may appear to be outliers. What happens to the equation and the correlation?

8. State any conclusions you can make as a result of this study.