Project Chapter 6 - Curved Quantitative Relationships

Directions: Create a Poster on the following topic. Make sure your poster has the following items. You will be presenting your poster to the other students in the class. Pick a team name for your group. Then chose one of the following paired data sets to analyze from the "nonlinear data sets" (updated summer 2017). Each group should have different data to analyze.

Data	Group #	Team Name	Exponential Se Fix
Age of Mother / Low Birth Weight			360.6 grams
Ave Cigarette / Deaths			48.1 deaths
Percent and cost of cleaning Lake			$17813.22
Work Hours / Transmission Company Cost			$2401.79
Month / Solar Energy			434.34 kWh
Year (Adjusted) / World Population			0.08052 Billion People
Year (Adjusted) / House Prices			$7145.94
Temperature / Copper Expansion			6.699 cubic cent.

- Pick two quantitative variables and pick which should be X and which should be Y. The poster should give the explanatory variable (x) and response variables (y), what the units are for x and y.

- Use Statcato to create a scatterplot, R-squared, standard deviation of the residuals, and the equation of the curve (formulas) for the exponential curve, the logarithmic curve, and the quadratic curve. There should be three scatterplots, three equations (formulas), three r-squared values, and three standard deviations on your poster. *(Note: The standard deviation for the exponential curve will be wrong in Statcato. The correct standard deviation is given above. The quadratic and the log curves have the correct standard deviation in Statcato.)*

- Write a sentence for each of the three R-squared values. (Three total sentences)

- Write two sentences for each of the three standard deviations. (Six total sentences)

- List the r-squared values and standard deviations on your poster and use them to decide which of the three curves the best fit for the data is? Explain your choice.

- What is the scope of the x-values? *(May differ if using "adjusted" data.)*

- Choose any x value in the scope and plug it into the equation of your best-fit curve to predict the y value. *(Use only your best-fit curve.)* How far off could your prediction be on average?

- Decorate your poster!!