Math 111
Activity for Unit 4

For this project you will again collect data, but now you are looking for data that has an <u>exponential trend</u>. Exponential growth, or decay, will have a proportional increase or decrease over the domain of the independent variable. For a good statistical model you really should have 30 pairs of data points, but be sure to get at least 6 pairs of data points. Use your calculator to fit a curve to your data set. The modeling techniques from section 4.7 will not be necessary as long as you have a graphing calculator or access to Excel. The data you analyze may come from most any source-- this includes information from internet resources, data you've collected yourself, or data from other sources. You will need to cite your data source in your paper.

Your paper should be about 2-3 pages long, including your graphs and tables. The grading of this assignment will focus more on the use of your data and your model to support the position you take in your paper. Again, your assignment is primarily to *take a position in your paper and support it using your model and your data.*

This assignment will be very similar to your paper for Unit 2. Your paper should provide a good introduction that draws the reader into your subject and ends with a solid thesis statement. For your Unit 2 paper, you interpreted the slope and vertical intercept of a linear model.   For this paper, you will still have a vertical intercept to interpret, but rather than a slope, you will have a rate of change to discuss. For comparison, graph both the linear and exponential model with your data and explain why the exponential model is a better choice.

Your conclusions should include how your "curve fitting" fits into the bigger picture around your data. What does the future look like? Take this time to comment on the model itself and make arguments for or against its long-term effectiveness.