**Exam 4 Topic List – Math 110 – Spring 2014**

“We could use up two Eternities in learning all that is to be learned about our own world and the thousands of nations that have arisen and flourished and vanished from it. Mathematics alone would occupy me eight million years.” – Mark Twain

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| **Date covered in class** | **Topic** | **Learning Objective** |
| March 10th  | Regression | Use your calculator to find a curve/ line of best fit. (Remember to reinitialize the independent variable when appropriate) |
| Identify the most appropriate model based both on technology and the context of the situation. |
| March 14th  | Regression | Use your calculator to find a curve/ line of best fit. (Remember to reinitialize the independent variable when appropriate) |
| Identify the most appropriate model based both on technology and the context of the situation. |
| March 17th  | Power Functions | Write the general form of a power function and identify the parts of the equation. |
| Identify if a function is directly or indirectly proportional given context, an equation, a table, or a graph. |
| March 19th  | Write the general equation for a power function from context, solve for the constant of proportionality, and give the specific equation |
| March 21 | Sketch the graph of a power function for different powers (even/odd and neg/pos) as well as for functions with either a positive or a negative constant of proportionality.  |
| Be able to identify and/or interpret the characteristics of each family of functions (Directly and Indirectly Proportional Power functions) including: intercepts, rates of change, asymptotes, end behavior, and domain and range. |
| March 31 | Polynomial Functions | Be able to identify and/or interpret the characteristics of each family of functions (Polynomial functions) including: intercepts, rates of change, asymptotes, end behavior, domain and range and max/min values. |
| Given any polynomial function, be able to identify the leading term and the degree and use this information to give the global behavior, the # of turning points, and the # of horizontal intercepts. |
| April 2 | For any polynomial function, be able to identify and interpret the vertical intercept, the horizontal intercepts, and the max/or min. value. |
| Find an appropriate window on your graphing calculator in order to find key points on the graph of a polynomial function. |
| April 4 | Quadratic Functions | Be able to identify and/or interpret the characteristics of each family of functions (Quadratic Functions) including: intercepts, rates of change, asymptotes, end behavior, domain and range and max/min values. |
| April 7 | For a quadratic function, be able to identify and interpret the vertical intercept, the horizontal intercepts, and the vertex. |
|  | **EXAM 4** |