QUIZ 10 - MATH 111 Friday, November 16

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. In this problem you will be asked to manipulate the following data in various ways. Make sure to show **all your work**.

x	1	5	7	10	11
y	28.1	90.7	162.9	392.0	525.3

   (a) Test whether the given data are exponential.

   (b) If they are find an exact exponential model; if they are not, use exponential regression to find an exponential model.

   (c) Create a table for z versus x, where z is the natural logarithm of the data. (This was done in class when studying Section 4.5.)

   (d) Check the logarithmic data for linearity.

(e) If they are linear, create an exact linear model for z vs. x; if they are not, use linear regression to obtain a model for z vs. x.

(f) Use the linear model for z vs. x to obtain an exponential model for y vs. x. Show exactly how you did this.

(g) Graph the two models of Parts (b) and (f) (on different axes), making sure to label your axes. Which of two models seems to fit the original data more closely?