Algebra II

Name: ______________________

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Quadratic Regression

Section 2.7 & 5.8 & 5.9

Get graphing calculator ready to enter data:

1. Reset Calculator
2. Diagnostics “ON” (CATALOG, then slide down to “D,” etc.)
3. STAT PLOT on (this allows you to see your data points)

Enter data:

4. STAT → EDIT → now enter data: x-values in list 1 and y-values in list 2

Retrieve regression equation from calculator:

5. STAT → CALC → “5” or arrow down to QuadReg (Quadratic Regression) →ENTER
   Regression equation appears on screen.
   Note: the closer the R^2 value is to 1, the better the line of fit!

Now, to graph this equation without having to copy it yourself:

6. Hit the “Y=” → VARS → 5:STATISTICS → EQ (at top, right-arrow over) →ENTER
7. Hit GRAPH – note: with the appropriate window set, you will see both your raw data (points in the lists), and the regression equation

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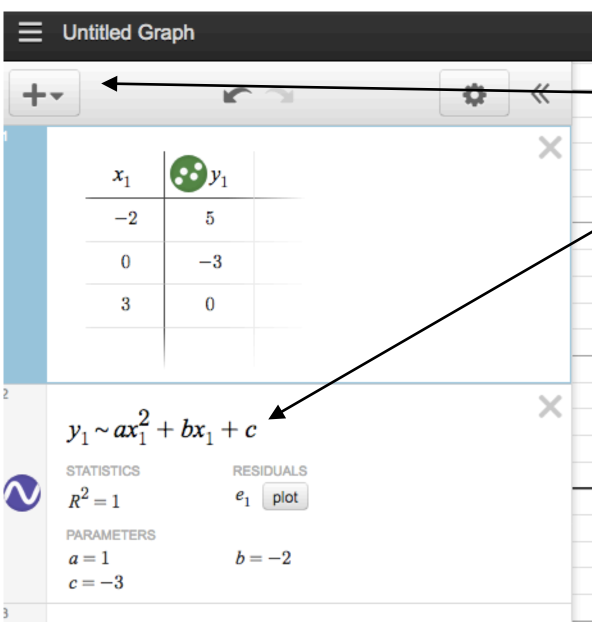
Need to do HW and don’t have a graphing calculator? Here you go!!

Using Desmos.com to perform regression:



Go to Desmos.com/calculator, then:

1. Create table of x & y values by clicking the ‘+ sign’ and selecting ‘table.’

2. Drop to the next box down, and enter the exact equation shown to the left (for quadratic regression), using the tilde (‘squiggle’) instead of an equal sign.
   Note: To enter “y_1” simply type y1 and desmos will make the 1 a subscript!
   To enter the “squared” over the x_1, either use the ‘up-arrow 2’ or use the squared button on the desmos keyboard (like on the calc).

3. Desmos will show you the values of a, b and c in the equation, giving you the best fit quadratic equation for that set of data.