

Statistics Activity 8

Scatterplots-Quadratic

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CALCULATORS: Casio: fx-9750G Plus & CFX-9850G Series

Keystrokes for the Calculator

From the Main Menu, press **2** for STAT.

If there are data in List 1 and List 2, follow these directions:

- Press **F6** (make sure that the highlighted cell is in List 1 by pressing the **right/left/up/down arrow**).
- Press **F4** (DEL-A) then press **F1** (YES).
- Repeat this process for List 2 if necessary.

Enter Data:

- Type the average speed data in List 1
- With appropriate cell highlighted, type numerical value then **EXE** to store.
- Use the right arrow key to go over to List 2 and then type in the miles per gallon data.
- Make sure your data is matched up correctly and that you have 10 entries in both List 1 and List 2.

	List 1	List 2	List 3	List 4
1	30	18		
2	35	19		
3	40	22		
4	45	25		
5	50	28		
				30.0

Graph the scatterplot:

- Press **F6** (more) and then Press **F1** (GRPH).
- Press **F6** (SET) to set up your graph.
- Press **down arrow key** to Graph Type, press **F1** (Scat).
- Press **down arrow key** to XList then press **F1** (List1).
- Press **down arrow key** to Ylist then press **F2** (List2).
- The frequency should be 1 and you can choose the type of mark you would like to make.
- Press **EXIT** and then **F1** for Graph 1.

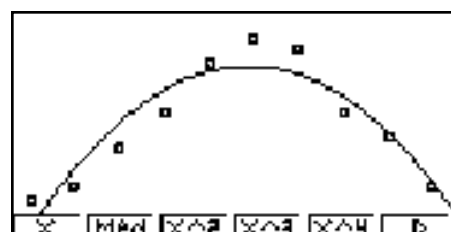
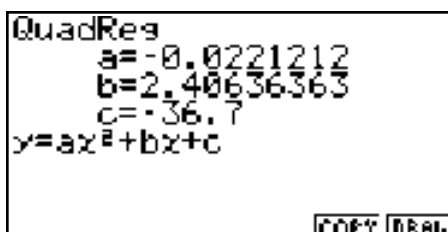
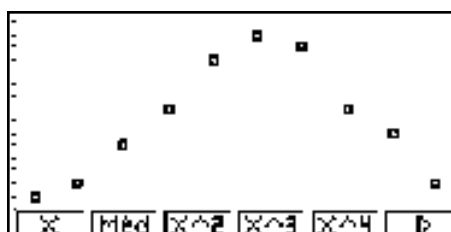
StatGraph1	
Graph Type	:Scatter
XList	:List1
YList	:List2
Frequency	:1
Mark Type	::

To get the line of best fit:

- Press **F3** (x^2) to find a quadratic regression model.

To see the line of best fit with the data:

- Press **F6** (DRAW).



Statistics Activity 8: Scatterplots-QuadraticCALCULATORS: Casio: *fx-9750G Plus & CFX-9850G Series***Student Worksheet Activity 8**

An engineer is interested in finding out about how average speed influences the miles per gallon a car gets. Her data for a particular car is in the table below.

Average Speed (mph)	Miles Per Gallon (mpg)
30	18
35	19
40	22
45	25
50	29
55	31
60	30
65	25
70	23
75	19

1. Enter the data into your calculator.
2. Graph the scatterplot.
3. Describe the shape of the data.

4. Explain in everyday language and in terms of the problem what is happening.

5. Use your calculator to find an equation that fits the data.

- a. What equation will fit best?

- b. Why did you make this choice?

- c. What did you see in the data that influenced your decision?
