C:\Users\amacargel\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\LN3F4Q9I\MC900053428[1].wmf**TI-83 DATA ANALYSIS**

**ALGEBRA I or ALGEBRA II**

**Yearbook Pictures**

A photography studio offers the following packages to students posing for yearbook   
 photos.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of pictures | 15 | 24 | 31 | 44 |
| Total Cost | $10.00 | $13.00 | $16.00 | $19.00 |

Graph this data on your graphing calculator using an appropriate window.

A. Entering the points

1. Press the button marked STAT.
2. With the cursor on the word EDIT and 1:Edit, press ENTER.
3. Enter in the Number of pictures in List 1. .
4. Enter the Total Cost in List 2.

B. Telling the calculator it needs to plot points:

1. Press the yellow '2nd' button, then press the 'Y=' button.
2. With the cursor on 1:, press 'ENTER'.
3. With the cursor on 'ON', press 'ENTER'.
4. Make sure the very first item after the word 'TYPE' is selected (so we're telling the calculator that we want to plot points, and not some other strange thing.)
5. Move down to the row that begins with XLIST: Since all of our x-values are in list L1, we want to put a 'L1' right there. YOU CANNOT JUST TYPE L1 AND HAVE IT WORK! You need to press the yellow '2nd' button, then press the number 1 (which means we want the yellow L1 above it.)
6. Move down to the row that begins with YLIST. By following the same procedure, put an 'L2' right there.
7. Move down to the bottom row, and make sure that the little square is chosen.

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1. Graph this data on your graphing calculator by pressing GRAPH. Press WINDOW to adjust the window settings so you will be able to see your graph. What window settings did you choose (indicate this below)?

Window

Xmin= \_\_\_

Xmax=\_\_\_

Xscl=\_\_\_

Ymin= \_\_\_

Ymax=\_\_\_

Yscl=\_\_\_

Xres=\_\_\_

1. What type of relationship does this appear to be?
2. Using slope-intercept form, find an equation to "best fit" this data.
3. Write your equation using function notation using C to denote cost and n to represent the number of pictures (round your values to the nearest penny.)
4. Graph the equation you wrote in question 3 to see how good a "fit" it is. Describe the result.
5. Using the trace function, find which of the 4 points your equation works exactly. Why do those points match exactly?
6. Press STAT, move the cursor to CALC, and select 4: LinReg to complete a linear regression in order to find an equation of "best fit." What equation did it produce? (Round to the nearest hundredth). Also, write the equation using function notation.
7. Graph it and compare this equation with yours. How are they similar? Different?

**NOTE: For the remainder of the questions, use the equation obtained in question 7. Show all your work or explain your reasoning. Round your answers to the nearest penny or nearest number of pictures.**

1. If the studio offers a 50-print package, what do you think they should charge? Show or explain two methods for obtaining this answer.
2. If the studio offers a 20-print package, what do you think they should charge? Show or explain two methods for obtaining this answer.
3. If you only have $17.00, how many prints do you think they should sell you? (Clearly show ***how*** to solve this algebraically and support your answer graphically).

1. If you have $25.00, how many prints do you think they should sell you? (Clearly show ***how*** to solve this algebraically and support your answer graphically).
2. What is the y-intercept for the equation? Write a complete sentence to explain the real-world meaning of the y-intercept.
3. What is the slope for the equation? Write a complete sentence to explain the real-world meaning of the slope.

**ATA**