Say What You Mean

Examining your data

I. Enter your data.
   Enter the following scores into List 1:

   80  78  42  75
   65  60  81  57
   77  84  66
   74  93  29

II. Order your list without retyping any entries.

   Go back to your list to answer the following questions.

   1) What is the 1st number in your organized list? _________
   2) What is the 5th number in your organized list? _________
   3) What do you think is a fair curve? c = _________

III. Adjust scores according to your “curve”.

   *Put your new grades in List 2 without retyping any entries.

   4) What is the 1st number in your list now? _________
   5) What is the 7th number now? _________

IV. Create a scatter plot with the data.

   Place either “new grade” or “old grade” in the statement here to help you determine your dependent and independent values.

   6) __________________ depends on __________________.

   7) Find the values below to help you determine the scale for your scatter plot.

   Lowest old grade: _______  Lowest new grade: _______  Highest old grade: _______
   Highest new grade: _______
* Compare the graph you created to the one your calculator will create.

* Set up the calculator window similar to the numbers you used on each axis of your hand made scatter plot.

8) Give the window you will use for plotting your data.

9) Set up your scatter plot like the plot shown here. After setting up your plot, press graph to view your scatter plot.

10) Does the data represent a linear function? ______

11) Does it appear to have a positive correlation, a negative correlation, or neither? ______

12) Write a function to represent your grade change. _______________

13) Is it a “curve” or a “line”? ______

14) Enter your function into Y₁. Graph it. Does it fit your data?
**Creating Shapes Using Linear Equations**

Work in pairs to graph linear equations that will make the following shapes: Note: Your x-axis and/or y-axis may serve as part of the shape. Also, when graphing perpendicular lines, the lines may not look perpendicular because of the smallness of the screen.

<table>
<thead>
<tr>
<th>Shape</th>
<th>Y =</th>
<th>Graph (Sketch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Triangle</td>
<td>Plot1, Plot2, Plot3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y1 = 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y2 = 2x + 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y3 = -2x + 8</td>
<td></td>
</tr>
<tr>
<td>2. Right Triangle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Parallelogram</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Trapezoid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Rectangle
The Family of Linear Functions

I. Use your graphing calculator to graph the lines described by:

✓ $y = x - 2$
✓ $y = x - 1$
✓ $y = x$
✓ $y = x + 1$
✓ $y = x + 2$
✓ $y = x + 3$
✓ $y = x + 4$

How does the value of “b” affect the graph described by $y = x + b$?

What do you notice about the lines?

II. Make a prediction about the lines described by:

✓ $y = 2x - 3$
✓ $y = 2x - 2$
✓ $y = 2x - 1$
✓ $y = 2x$
✓ $y = 2x + 1$
✓ $y = 2x + 2$
✓ $y = 2x + 3$

Now, compare your prediction with the actual graph.