First, we must turn on Diagnostics on your calculator.  
Note:  you only have to do this once (the first time you do this activity).

2nd Catalog
Diagnostics ON
Enter

Problem #1:  Given the following information:

<table>
<thead>
<tr>
<th>x</th>
<th>2</th>
<th>5</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>12</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>y</td>
<td>5</td>
<td>10</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>21</td>
<td>27</td>
</tr>
</tbody>
</table>

Create a scatter plot of the data
STAT
Edit
Enter data for x in L1
Enter data for y in L2
2nd Y= (for Stat Plot) / Enter / Enter (to turn ON) / Type: scatter plot
Zoom 9 (for Zoom Stat)

Create a linear model for the data and graph both scatter plot and line.
STAT
CALC
4 (LinReg (ax+b))
L1, L2, VARS
Y-VARS
1 (for function)
1 (to use y1)  (This puts the equation into y1 for you)
Enter
Zoom 9

Note:  the closer to “1” your r^2 value is, the better the fit of the line to the data.
TI-83 or TI-84 Graphing Calculator

Linear and Quadratic Regression Lines

(This technique is especially helpful in Math 1001 and Math 1431)

Problem #2: Given the following information:

<table>
<thead>
<tr>
<th>x</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>y</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>10</td>
<td>20</td>
<td>35</td>
<td>55</td>
<td>75</td>
<td>176</td>
</tr>
</tbody>
</table>

Clear the previous work from the calculator

Y=

CLEAR (gets rid of the old equation)

STAT

ClrList (#4)

L1, L2

Enter (empties out the lists safely)

Create a scatter plot of the data

STAT

Edit

Enter data for x in L1

Enter data for y in L2

ZoomStat (Zoom 9)

Create a quadratic model for the data and graph both scatter plot and parabola.

STAT

CALC

5 (QuadReg)

L1, L2

VARS

Y-VARS

1 (for function)

1 (to use y1)

Enter

Zoom 9