## Calculating the standard deviation using a Sharp EL-W531

**Relevance to the syllabus:** Leaving Certificate Ordinary Level

**Example 1 :** Calculate the standard deviation of the following data from census at school showing the heights of a sample of 10 students from 5th year.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **height/cm** | 165 | 165 | 150 | 171 | 153 | 171 | 153 | 153 | 166 | 179 |

To enter a data set:

1. Number each row of data if this is not already done to make less likely to miss a row as data is input. (See red writing in table.)
2. Press Mode button , then press 1 for STAT and 0 for SD.
3. Enter the value for the first piece of data (165 in this case), press the Data button  .
4. Repeat Step 3 for all the data items.

To find the mean of a data set

1. Input the data set as above.
2. Press the RCL button  and press the Mean button .

The number now displayed is the mean of the data set. It should be 162.625 for the above data set.

To find the standard deviation of a data set

1. Input the data set as above.
2. Press the RCL button  and press the Mean button .
3. The number now displayed is the standard deviation of the data set. It should be 9.32 for the above data set.