# Are you Golden? – Excel Help Sheet

Investigating the relationship between a person's height and the distance from their belly button to the floor.

Using the PHIDATA.xls dataset available from the CensusAtSchool website.

The data is in columns, with column I left blank for the Phi values. To work these out type the formula =D2/E2 into I2, then copy this down the column.

To work out the averages in Excel,
Mean formula = AVERAGE(I2:I51)
Median formula = MEDIAN(I2:I51)
Mode formula = MODE(I2:I51)
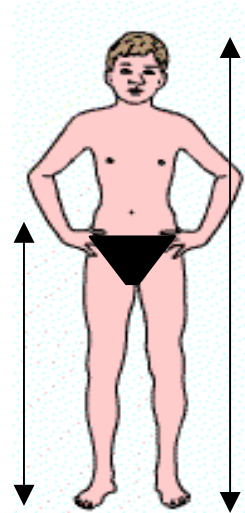
To plot the scatter graph of BellyButtonheight v's Height Highlight the two columns D and E by holding down the left mouse

button and dragging. Click on the chart wizard. Follow the instructions to draw your scatter graph. You can change things like the colours, scales, titles etc at any time by right clicking on your graph and choosing '*Chart Options*' or right clicking on the very thing you want to change and choosing '*Format Axis*' or '*Format Chart*' area etc. You can also add a trend line if you wish but should remove the obvious outliers before doing this.

To get Excel to draw box plots you will need to follow the instructions in the separate help-sheet, as Excel does not do this very easily. Packages such as Autograph or Mintab will produce box plots.

Extension – The **Trimmed Mean** of the data can be calculated using the TRIMMEAN function in Excel. You will need to say where the data is and also what value to use 0.95 for 95%, 0.9 for 90% etc
Type in the formula =TRIMMEAN(I2:I51,0.95)
Excel will trim off the most extreme values and find the mean of the rest. Usually a value of 95% or 0.95 is used to only exclude the most extreme values but you can investigate what happens if you reduce this, and look at 90%, 75% etc.