

Technology Insight 6 - Relative Standing and Boxplots

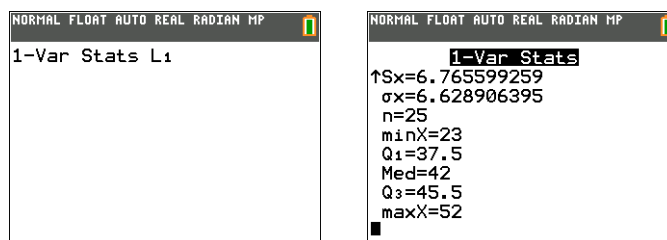
z-Scores

For all technology, manual calculation of z-scores is done. When calculating in one step, be sure to put parentheses around the numerator, e.g., $\frac{x-\bar{x}}{s} = \frac{(12-11.4)}{2.3} \approx 0.26$.

TI84

The Five-Number Summary

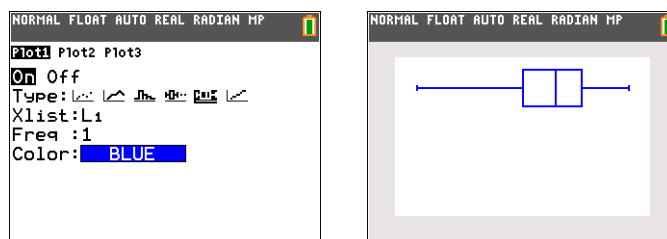
The TI84 displays the *five number summary* when calculating 1-Var Stats.



(If you have grouped data, make sure you specify the list with the class mark, and the list for the frequencies, e.g. 1-Var Stats L_1, L_2)

Boxplots

For the boxplots, use the Stat Plot menu, and select the boxplot icon (or modified boxplot which will show outliers). Press Zoom 9: Zoom Stats.



(When creating boxplots with grouped data be sure to have the class marks in L1 for Xlist, and Freq will be L2 for the frequencies.)

Note: you can graph up to three boxplots using Plot1, Plot2 and Plot3. Also, press Trace and you can move back and forth to see the five number summary.

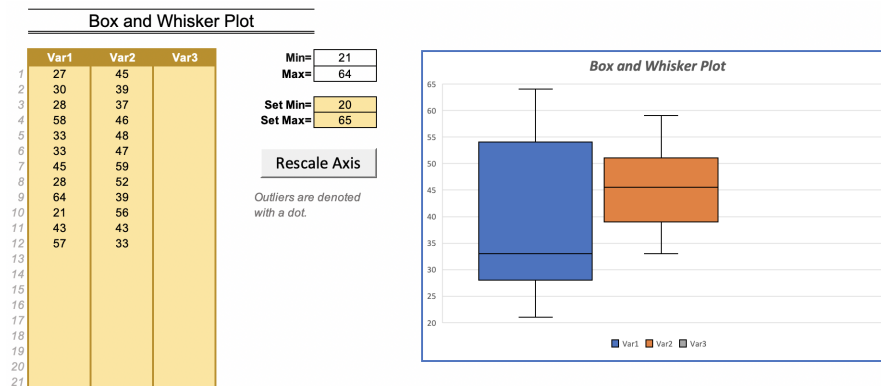
EasyStats

Step 1) Open EasyStats and select **Charts: Box Plots**. You can plot up to three data sets. The box and whisker plots created are *modified* boxplots which will indicate outliers with a dot.

Step 2) Use the calculated max-min values to adjust the vertical scale axis.

Step 3) Click on the Rescale Axis button to automatically adjust the vertical axis.

The following chart shows the ages of female Oscar winners versus male Oscar winners:



StatCrunch

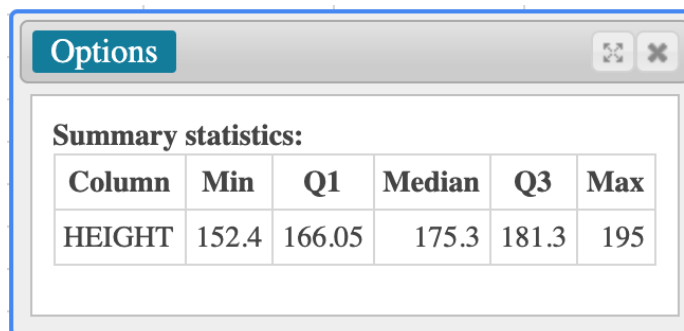
Five number Summary

Step 1) Either enter your own data, or select a data set from our text. I chose the “foot and height” data.

Step 2) Select Stats, Summary Stats, Column

Step 3) Choose the variable to plot, I’ll select Height

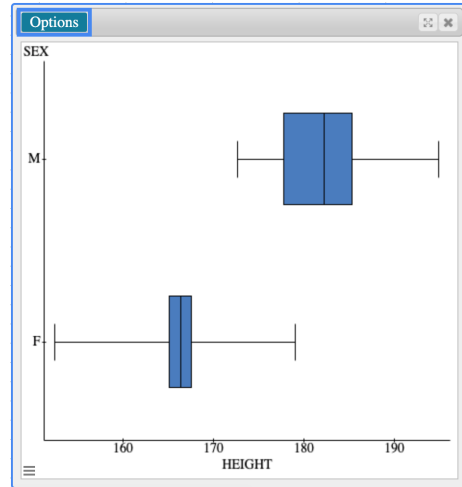
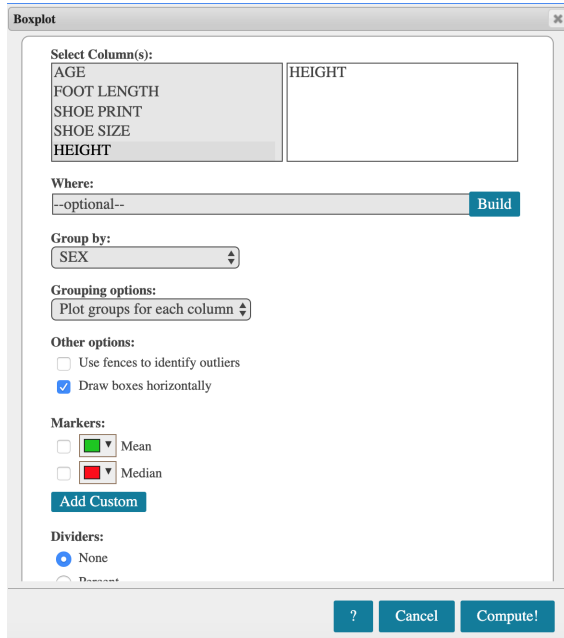
Step 4) Under Statistics, click on Min. Then, hold down on the ctrl key and click on Q1, Median, Q3, Max, and then Compute!



Boxplots

Step 1) Select Graph, and choose Boxplot.

Step 2) Choose your options. I wanted to graph Height, but have them grouped by Sex, and drawn Horizontally, and did not want the outliers identified.



Quite surprising the comparison of the heights of males versus females.