

# Statistics - TI 84 Calculator – Histograms

Words in **bold** represent calculator keys

Before you begin: Clear any equations in the **Y=** editor

Enter data in list L1

**STAT**, 1:Edit, **enter**

Clear any old data: arrow up until List name is highlighted then **clear enter**

Type the data values in L1, using enter after each value

Making a Histogram

**2<sup>nd</sup> y= (stat plot)**

1: Plot1, **enter**

**enter** to turn plot on

type: 3<sup>rd</sup> choice is histogram. Arrow over to it then **enter**

xlist: L1 (This is the default. To change use **2<sup>nd</sup> 2** for L2, **2<sup>nd</sup> 3** for L3 etc)

Freq: 1 (This is the default. Do not delete or change unless you have frequencies for the data)

Color: choose a color for the graph

**GRAPH**

If you cannot see the graph in the window then **ZOOM 9 (ZoomStat)**

**Trace** will let you see the bin beginning and ending values and the number of data values in each bin.

To change the bin width from the computer chosen default

**Window**

Xmin: change to the minimum data value or something slightly less

Xmax: change to maximum data value or something slightly greater

Xscl: This is the bin width. Change it to something appropriate. (For example, if the data is test scores then a Xmin = 0, Xmax = 100 and Xscl = 10 would group the grades by 10's, ..., 40's, 50's, ..., 80's, 90's)

Ymin: Can change to 0. This is the minimum number of data values that can be in a bin.

Ymax: This is the maximum number of data values that can be in a bin. Look at the trace of the original graph to give you an estimate for this number. What is the largest number of data values you think will be in a single bin?

Yscl: 1 (This is the default. Leave it at 1)

Ignore the other fields (Xres, change X and TraceStep)

**Graph** (Do not use zoom9 – this will reset the bins to the computer default)

# Statistics - TI 84 Calculator – Boxplots

Before you begin: Clear any equations in the **Y=** editor

Enter data in list L1

**STAT**, 1:Edit, **enter**

Clear any old data: arrow up until List name is highlighted then **clear enter**

Type the data values in L1, using enter after each value

Making a Boxplot

**2<sup>nd</sup> y= (stat plot)**

1: Plot1, **enter**

**enter** to turn plot on

type: 4<sup>th</sup> choice is boxplot with outliers, 5<sup>th</sup> choice is boxplot without outliers. Arrow over to the one you want then **enter**

xlist: L1 (This is the default. To change use **2<sup>nd</sup> 2** for L2, **2<sup>nd</sup> 3** for L3 etc)

Freq: 1 (This is the default. Do not delete or change unless you have frequencies for the data)

Color: choose a color for the graph

**GRAPH**

If you cannot see the graph in the window then **ZOOM 9 (ZoomStat)**

**Trace** will show you the outliers, minX, 1<sup>st</sup> quartile, median, 3<sup>rd</sup> quartile, maxX, and the values at end of the whiskers.

Whiskers are drawn from the box to the values closest to the upper and lower fences. The fences are found using the 1.5 IQR Rule as a rule of thumb to determine the whiskers and possible outliers.

The IQR (interquartile range) =  $Q3 - Q1$ .

Upper fence =  $Q3 + (1.5 * IQR)$  Any data values larger than the upper fence are considered (high) outliers.

Lower fence =  $Q1 - (1.5 * IQR)$  Any data value smaller than the lower fence are considered (low) outliers.

The ends of the whiskers are the largest and smallest data values that fall within the 1.5IQR Rule