

Technology Insights 1 - Creating Histograms

TI-84

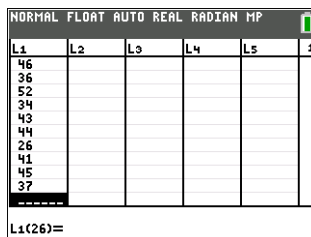
There are two ways of creating a histogram on the TI calculators, depending on if we have raw data, or summary data (grouped data). Suppose we want a histogram of the Math 146 Exam 1 tests scores from section 2.1 notes:

42 42 38 42 46 34 40 23 41 38 39 46 50 49 45 46 36 52 34 43
44 26 41 45 37

Using Raw Data

Step 1) Always be sure there are no equations in the *equation editor*. Press $\boxed{y=}$ and clear any equations.

Step 2) To enter data into the *stat editor*, press $\boxed{\text{stat}}$ and then Edit (just hit the enter button). If there is data in L1, move your cursor up to the L1 heading and press $\boxed{\text{clear}} \boxed{\text{enter}}$. Now enter the raw data from above.



L1	L2	L3	L4	L5	1
46					
36					
52					
34					
43					
44					
26					
41					
45					
37					

L1(26)=

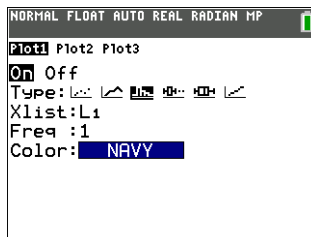
There should be 25 data values. It shows L1(26)=, which confirms we have all 25 values. To setup the calculator to produce a histogram:

Step 3) Press $\boxed{2\text{nd}} \boxed{y=}$ which is actually **stat plot**. The TI can have three stat plots simultaneously. We only want one. Press enter on **Plot1**.

Step 4) Setup Plot1 by pressing enter on **On**.

Step 5) Set the Type to the 3rd option for histograms by moving the cursor over and pressing enter. (The possible types of plots are: *scatter plot*, *line plot*, *histogram*, *modified boxplot*, *boxplot*, *normal quantile plot*).

Step 6) Set the Xlist to L1 and Freq to 1 (each data value represents one value). If Xlist is not set to L1, press $\boxed{2\text{nd}}$ and the number 1 key (it says L1 above it).



Plot1	Plot2	Plot3
On	Off	Off
Type: $\boxed{\text{1}}$ $\boxed{\text{2}}$ $\boxed{\text{3}}$ $\boxed{\text{4}}$ $\boxed{\text{5}}$ $\boxed{\text{6}}$		
Xlist: L1		
Freq: 1		
Color: NAVY		

From here, there are two ways to set the viewing window:

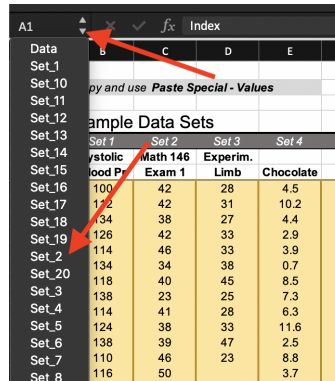
- 1) let the TI figure out the best, and
- 2) set it manually.

EasyStats (Excel Spreadsheet)

Download the latest version of EasyStats. Open the spreadsheet in Excel and enable macros. Some of the data sets are already preloaded in EasyStats.

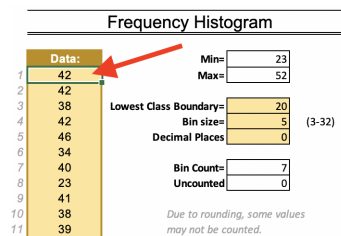
Step 1) Click on [17-Data Sets](#).

Step 2) Click on the *range name* drop down box (upper red arrow) and select data Set_2. Press ctrl+c to copy. You can also manually select and copy the data.

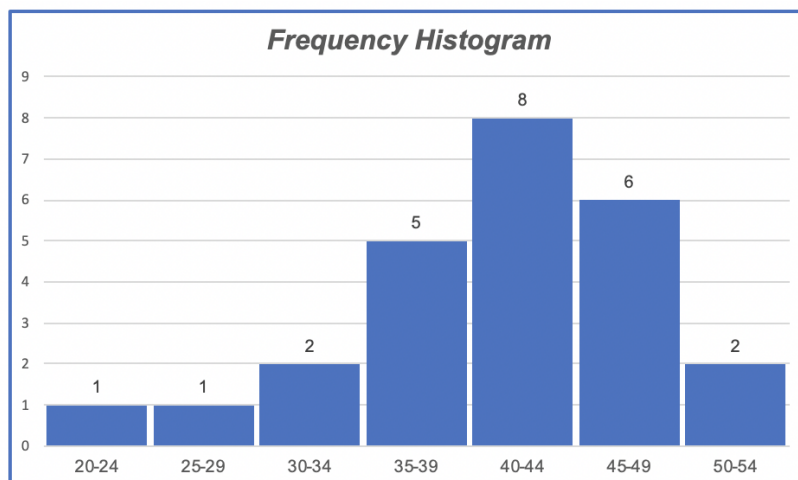


Step 3) Click on red Index link in the upper right to go to the Index page, and select 16-Charts [Histograms](#).

Step 4) Click on the first data cell and press ctrl+v to paste the data set.



Step 5) The spread sheet automatically calculates the max and min values to help you adjust the scale. Since 23 is the min, the lowest class limit of 20 is good. We can set the bin size, or width, to 5 (for this data, the width can be any number from 3 to 32). And finally, our data has no decimal places, so set Decimal Places to 0. This is to display the class limits correctly and to accurately count the frequency distribution. You should see the following histogram:



StatCrunch

From MyStatLab, click on StatCrunch. Most of the time we'll be clicking on *data sets from your textbook*, but to use our own data, click on *StatCrunch website*, and then Open StatCrunch.

Step 1) Enter the raw data into var 1.

Step 2) Click on Graph and Histogram.

Step 3) Click var1

Step 4) Set the Bins to start at 20, and the width 5

Step 5) Click **Compute!**

Play around with the options. I changed it to relative frequency, changed the labels, added column values, and added an average bar.

