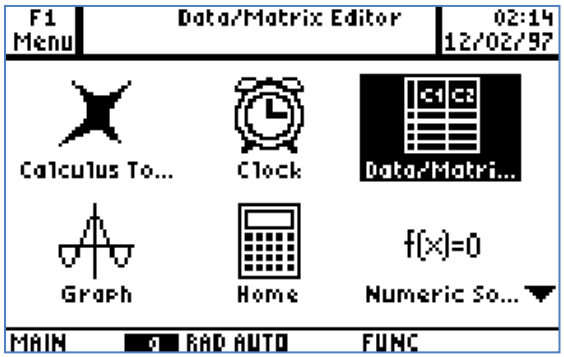
Chi-square tests for Independence on the TI-89

Looking at problem 12.20 on page 487 as an example, we must enter the matrix:

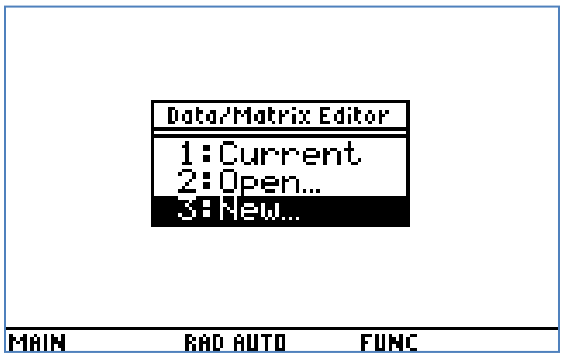
$$\begin{pmatrix} 4 & 12 & 8 \\ 10 & 4 & 2 \end{pmatrix}$$

This is a matrix with 2 rows and 3 columns, a 2×3 matrix.

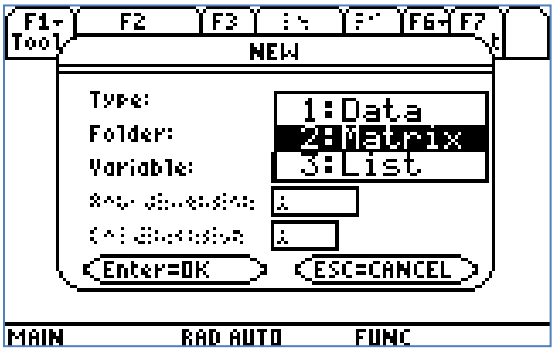
Press the APPS key and choose the Data/Matrix Editor.



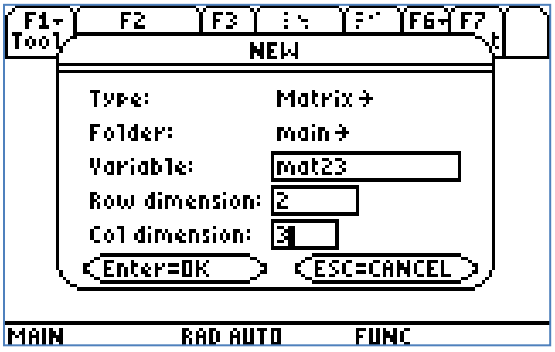
Choose option 3: New…



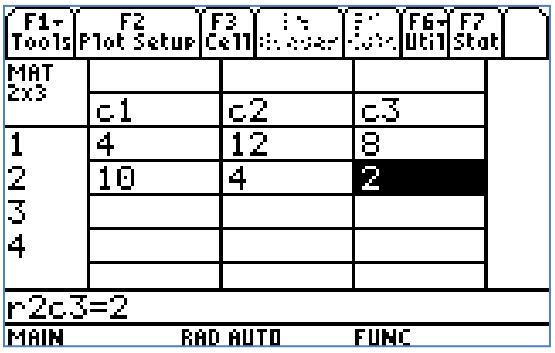
For Type: choose Matrix



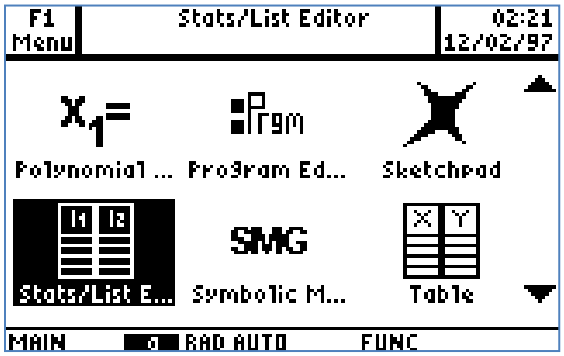
Name your matrix using the Variable: option. I recommend you name it something simple like mat1. Use the alpha keys to enter the name. Choose Row dimension: 2 and Col dimension: 3. Hit Enter for OK.



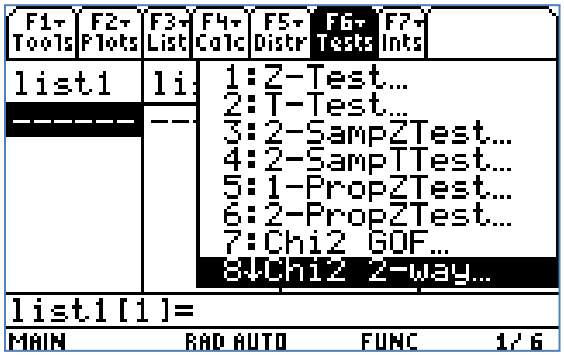
Type the values for the matrix, going across the rows. You must hit enter after each one.



Now press the APPS key again and go to the Stats/List Editor.

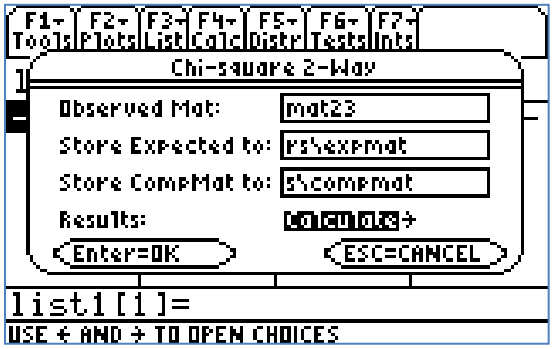


Choose F6>Tests, and option 8:Chi2 2-way

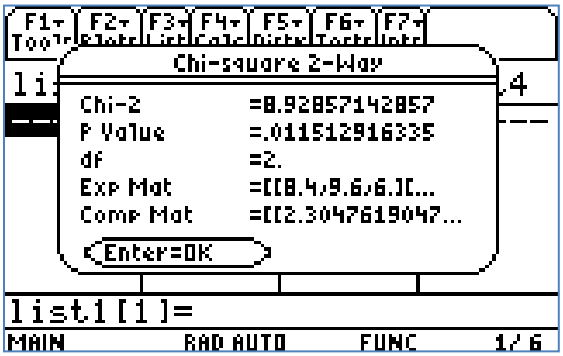


For Observed Mat: type the name of the matrix you just created, mat1. Leave the Store Expected to: and Store CompMat to: on their default options.

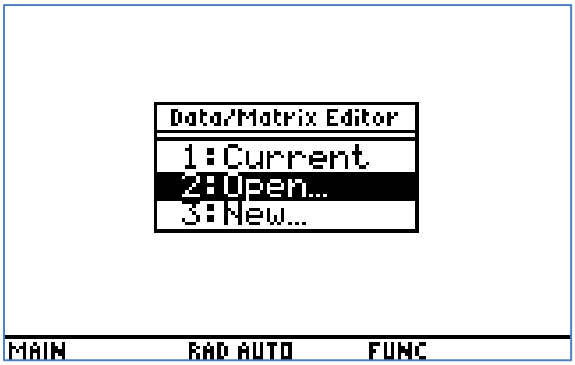
Highlight Calculate and hit Enter.



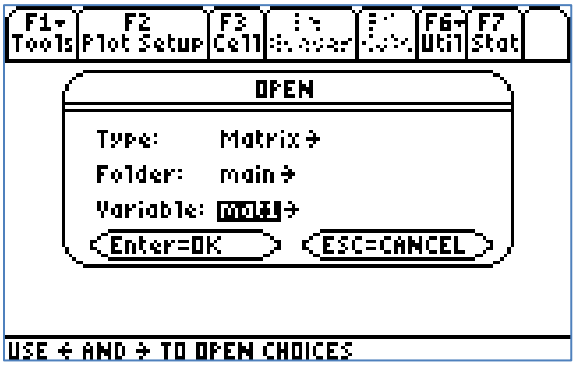
The results of the Chi-square test appear on the screen.



You can re-use mat1 for subsequent problems. To change mat1, Choose Open from the APPS>Data/Matrix Editor.



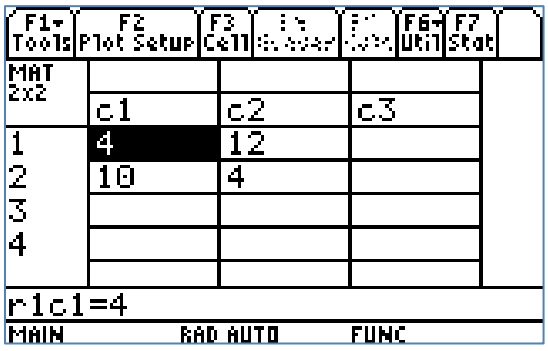
The matrix mat1 will be listed as one of the variables.



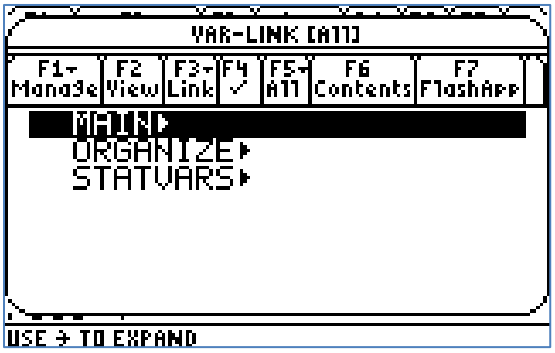
If your new matrix has different row and column dimensions, press F6 and choose the option Resize Matrix.

Enter in your new row and column dimensions.

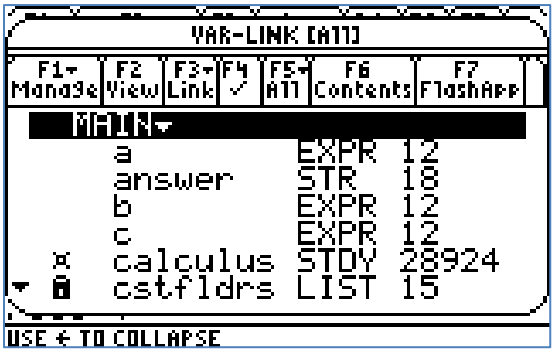
Hit enter, and change the data in each cell to match your new problem, then repeat the steps for the hypothesis test using the Stats/List Editor.



To delete old matrices from your calculator, press VAR-LINK (the second function above the subtraction key.)



Expand the category MAIN and scroll down to the matrix you want to delete.



Press F4 to select it and then press F1 and choose Delete.

Don't delete anything in the list that you don't recognize or you could compromise the functionality of your calculator!