

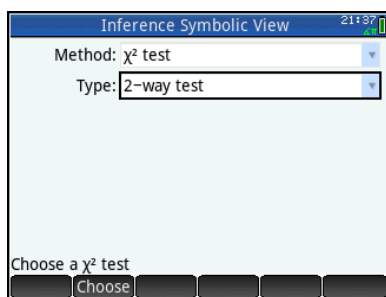
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27. Chi-square tests for two-way tables with HP Prime

You can use HP Prime to perform calculations for a chi-square test for homogeneity. We'll use the data from the restaurant study to illustrate the process.

1. Set up the test.

- Press **Apps** and tap the *Inference* app icon. The app opens in Symbolic view.
- Tap the **Method** field and choose χ^2 test. Tap the **Type** field and choose 2-way test.



- Press **Num** to open Numeric view. Enter the observed counts in the matrix ObsMat. The data can be found on Page 705.

ObsMat				
	1	2	3	4
1	30	39	30	
2	11	1	19	
3	43	35	35	
4				

2. View the results.

- Tap **Calc** to see the test results. The χ^2 value is displayed, along with its associated probability and the degrees of freedom.

Stats	
χ^2	18.2792115107
P	1.08828018786E-3
DF	4

- Tap **Exp** to see the matrix of expected counts and tap **OK** when you are done.

34.22222	30.55556	34.22222
10.71605	9.567901	10.71605
39.06173	34.87654	39.06173

- Tap **Cont** to see the matrix of the χ^2 contributions by category; again, tap **OK** when you are done.

0.5209235	2.333737	0.5209235
0.007524	7.672417	6.403837
0.3970634	0.000437	0.4223479

The results agree with our previous calculations.

The result matrices are available to you in Home view via the variables ExpMat and ContribMat.

Inference				21:45
ContribMat		0.5209235	2.333737	0.5209235
		0.007524	7.672417	6.403837
		0.3970634	0.000437	0.4223479
ExpMat		34.22222	30.55556	34.22222
		10.71605	9.567901	10.71605
		39.06173	34.87654	39.06173
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