TOPIC: INDEPENDENCE TEST USING A TI-84

Independence Test Using a TI-84

◆ To run an independence test using a TI-84, enter data in a _____, then use the `C:`χ^2`-Test` function.
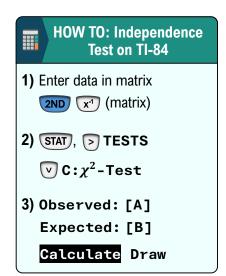
HOW TO: Independence Test on TI-84

1) Enter data in matrix

2ND x⁻¹ (matrix)

2) STAT , > **TESTS**

ⱽ `C:`χ^2`-Test`

3) `Observed: [A]`
`Expected: [B]`
`Calculate` `Draw`

PRACTICE

A student performs a Goodness of Fit Test using technology to see if pet ownership is independent of relationship status. They get the following results: $\chi^2 = 0.545$ & $p = 0.7614$. What can they conclude about pet ownership and relationship status?
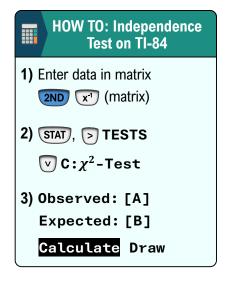
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EXAMPLE

A restaurant claims that customer satisfaction rating (out of 5) is independent of which of their three locations the patron dined at, so they collect data from a random sample of diners shown below. Perform an independence test for the claim with $\alpha = 0.05$.

	5	4	3	2	1
Location X	26	45	31	13	6
Location Y	31	56	29	12	9
Location Z	56	99	60	25	16

H_0: H_a:

Because P-value **[< | >]** α, we **[REJECT | FAIL TO REJECT]** H_0.
There is **[ENOUGH | NOT ENOUGH]** evidence to conclude that a student's final grade is dependent on the instruction delivery method of the class.

EXAMPLE

A math textbook company claims that the proportion of books sold for each subject is the same across book type sold. They collected data on a random sample of book purchases. Perform a homogeneity test for the claim with $\alpha = 0.05$.

	STATS	CALC	ALG	Other
Hardcover	27	48	29	11
Softcover	30	57	26	14
Digital	98	67	49	2

H_0:

H_a:

Because P-value **[< | >]** α, we **[REJECT | FAIL TO REJECT]** H_0. There is **[ENOUGH | NOT ENOUGH]** evidence to conclude that the proportion of books sold for each subject is not the same across book type.