TOPIC: TWO VARIANCES – TI-84

Hypothesis Tests for Two Variances Using a TI-84

◆ To perform a hypothesis test for two variances using a calculator, use the **`2-SampFTest`** function.

EXAMPLE Do a Hyp. Test to see if there's evidence for $\sigma_1 > \sigma_2$ using $\alpha = 0.05$ in the following scenarios:

(A) $s_{x_1} = 5.72,\ n_1 = 150\ \ s_{x_2} = 4.91,\ n_2 = 175$

H_0: _____ H_a: _____ P-value: _____

Because P-value **[< | >]** α, we **[REJECT | FAIL TO REJECT]** H_0.

There is **[ENOUGH | NOT ENOUGH]** evidence to suggest…

(B)

Sample Data						
Sample 1:	25.3	13.85	19.1	22.68	16.7	24.59
Sample 2:	13.2	12.4	15.6	12.98	19.9	20.11

H_0: _____ H_a: _____ P-value: _____

Because P-value **[< | >]** α, we **[REJECT | FAIL TO REJECT]** H_0.

There is **[ENOUGH | NOT ENOUGH]** evidence to suggest…

HOW TO: Hyp Test on TI-84 2 Variances

1) If given data, enter in **`L1, L2`**

(STAT, **`1:EDIT…`**)

2) STAT > **TESTS**

`E: 2-SampFTest`

3) If given data: If given $s_1, n_1, \ldots$:

DATA	**STATS**
`List1: L1`	`Sx1:`
`List2: L2`	`n1:`
`Freq1: 1`	`Sx2:`
`Freq2: 1`	`n2:`

`σ1: ≠σ2 <σ2 >σ2`

`Calculate` `Draw`

TOPIC: TWO VARIANCES – TI-84

PRACTICE

A historian is comparing the variation in weights of rare coins from different time periods. The data from two independent random samples is shown below. Using a 0.05 significance level and a graphing calculator, test the claim that the variation of weights before the 1900s is greater than after the 1900s.

H_0: _____ H_a: _____ P-value: _____

Because P-value **[< | >]** α, we **[REJECT | FAIL TO REJECT]** H_0.

There is **[ENOUGH | NOT ENOUGH]** evidence to suggest…

HOW TO: Hyp Test on TI-84
2 Variances

1) If given data, enter in **L1, L2**

(STAT, **1:EDIT…**)

2) STAT > **TESTS**

E: 2-SampFTest

3) If given data:

DATA
List1: L1
List2: L2
Freq1: 1
Freq2: 1

If given $s_1, n_1, \ldots$:

STATS
Sx1:
n1:
Sx2:
n2:

σ1: ≠σ2 <σ2 >σ2

Calculate **Draw**

TOPIC: TWO VARIANCES – TI-84

EXAMPLE

A fitness researcher is studying whether variation in resting heart rates (RHR) differs between non-athletes and athletes. Two independent random samples were collected from each group, shown below. Use $\alpha = 0.05$ to test the claim that the variation in RHR of non-athletes is higher than in athletes.

Resting Heart Rates: Non-Athletes vs. Athletes											
Non-Athletes:	95	66	72	58	94	62	58	79	91	96	68
Athletes:	58	54	53	68	52	61	59	74			

H_0: _____ H_a: _____ P-value: _____

Because P-value **[< | >]** α, we **[REJECT | FAIL TO REJECT]** H_0.

There is **[ENOUGH | NOT ENOUGH]** evidence to suggest…

HOW TO: Hyp Test on TI-84 2 Variances

1) If given data, enter in `L1, L2`

(STAT, `1:EDIT…`)

2) STAT > **TESTS**

`E: 2-SampFTest`

3) If given data: If given $s_1, n_1, \ldots$:

DATA	STATS
List1: L1	Sx1:
List2: L2	n1:
Freq1: 1	Sx2:
Freq2: 1	n2:

σ1: ≠σ2 <σ2 >σ2

Calculate Draw