

TECHNOLOGY CORNER for Section 8.3, Page 521

17. One-sample t intervals for μ on HP Prime

Confidence intervals for a population mean using t distributions can be constructed on the HP Prime, thus avoiding the use of Table B. Here is a brief summary of the techniques when you have the actual data values and when you have only numerical summaries.

- Using summary statistics (see auto pollution example, page 519)

- Press **Symb** and tap the *Inference* app icon.
- Select the **Method** field, tap **Choose** and select *Confidence Interval*
- In the **Type** field, select *T-Int: 1 μ*

- Press **Num** to enter Numeric view. Enter \bar{x} = 1.2675, s = 0.3332, n = 40, and C = 0.95.

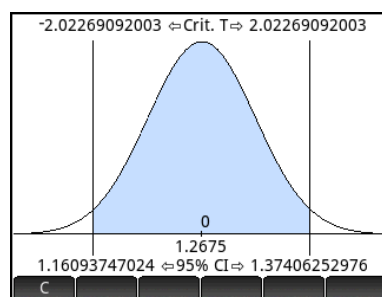
- Tap **Calc** to see the results numerically.

Results	
C	0.95
DF	39
Crit. T	± 2.02269092003
Lower	1.16093747024
Upper	1.37406252976
95%	
<div>More</div> <div>OK</div>	

- Tap **OK** to return to the Numeric view

You can also view the confidence interval graphically.

- Press **Plot** to see Plot view. The confidence interval is shown at the bottom, with the \bar{x} value and the critical t -values.



2. Using raw data (see video screen tension example, page 520)

- Open the Statistics 1Var app and enter the 20 video screen tension readings data in list D1

	D1	D2	D3	D4
1	269.5			
2	297			
3	269.6			
4	283.3			
5	304.8			
6	280.4			
7	233.5			
8	257.4			
9	317.5			
10	327.4			
Σ	269.5			

- Open the Inference app and select Confidence Interval and T-Int: 1 μ , as in the previous example

Inference Symbolic View

Method: Confidence interval

Type: T-Int: 1 μ

Choose an inferential method

Choose

- Press **Num** to enter Numeric view. Tap **Import**. In the **App** field, select **Statistics 1Var**; in the **Column** field, select **D1**. Tap **OK**.

Import Sample Statistics

\bar{x} : 306.32

n: 20

s: 36.2092834854

App: Statistics 1Var

Column: D1

Choose app from which to import data

Choose Cancel OK

- The values of \bar{x} , s, and n shown above will be pasted into the Inference app Numeric view.

- Enter C = 0.90

Inference Numeric View

\bar{x} : 306.32

s: 36.2092834854

n: 20

C: 0.9

Confidence Level

Edit Import Calc

- Tap **Calc** to see the results numerically

Results

C: 0.9

DF: 19

Crit. T: ± 1.72913281152

Lower: 292.319830777

Upper: 320.320169223

90%

More OK

- Again, tap **OK** to return to Numeric view.
- You can view the interval graphically by pressing **Plot**.

