



TECHNOLOGY CORNER

17. One-sample t intervals for μ on the 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 **Apps** 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 the Numeric view. Enter $\bar{x} = 1.2675$, $s = 0.3332$, $n = 40$, and $C = 0.95$.

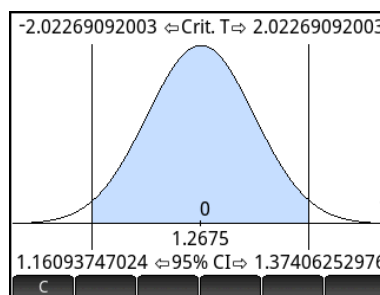
- Tap **Calc** to see the results numerically.

Results	
X	
C	.95
DF	39
Crit. T	± 2.02269092003
Lower	1.16093747024
Upper	1.37406252976
95%	
Size OK	

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

You can also view the confidence interval graphically.

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



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	269.5			
9	269.5			
10	269.5			
11	269.5			
12	269.5			
13	269.5			
14	269.5			
15	269.5			
16	269.5			
17	269.5			
18	269.5			
19	269.5			
20	269.5			

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

Inference Symbolic View

Method: Confidence interval

Type: T-Int: $1\ \mu$

Choose a distribution statistic

Choose

- Press **Num** to enter the 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

s: 36.2092834854

n: 20

App: Statistics 1Var

Column: D1

Choose column to import

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: .9

Confidence Level

Edit Import Calc

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

Results	
X	
C	.9
DF	19
Crit. T	± 1.72913281152
Lower	292.319830777
Upper	320.320169223
90%	
Size OK	

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

