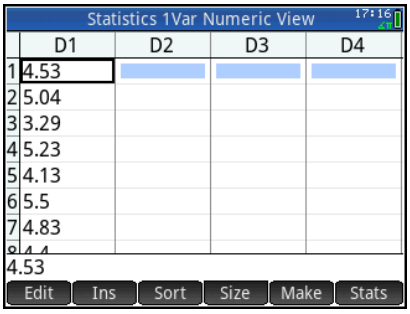
TECHNOLOGY CORNER

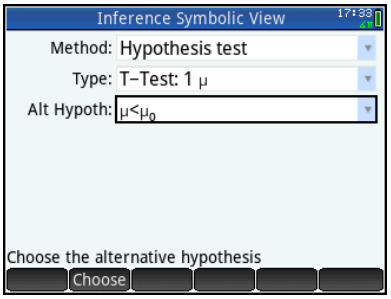
20. One-sample t test for a mean on the HP Prime

You can use the HP Prime to perform a one-sample t test using either raw data or summary statistics. Let's use HP Prime to carry out the test of H_0: $\mu = 5$ versus H_a: $\mu < 5$ from the dissolved oxygen example.

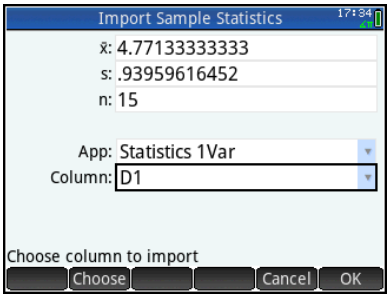
- Open the Statistics 1Var app and enter the 15 dissolved oxygen readings in D1



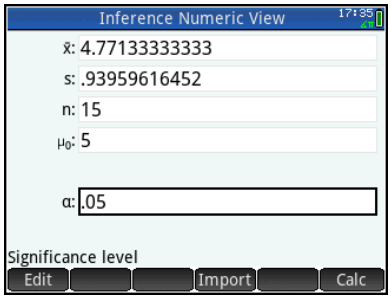
- Open the Inference app and select Significance Test and T-Test: 1 μ. For the alternative hypothesis H_a, select $\mu < \mu_0$.



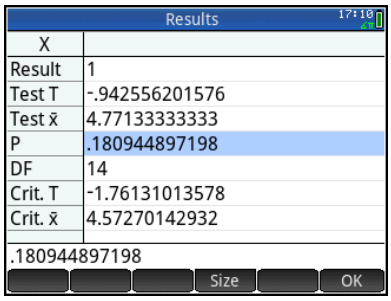
- Press Num Setup and tap Import. In the **App** field, select *Statistics 1Var*; in the **Column** field, select *D1*. Tap OK.



- The values of $\bar{x}$, s, and n shown will be pasted into the Inference app Numeric view.
- Enter $\mu_0 = 5$ and $\alpha = 0.05$



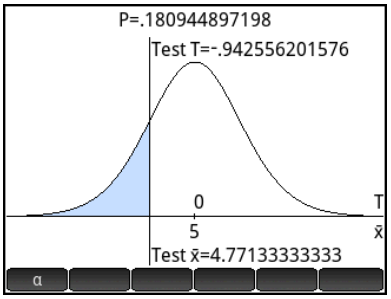
- Tap Calc to see the results numerically



- Tap OK to return to the Numeric view

You can also view the confidence interval graphically.

- Press Plot Setup to see the Plot view. The test probability is shown at the top, with the test t and $\bar{x}$ values.



- Tap α for an alternate view of the test results

Here, the area associated with the alternative hypothesis and α-level is shown shaded in blue. The test t and $\bar{x}$ values are shown as well. The test values are clearly not in the shaded reject region. You can press ▲ and ▼ to increase and decrease the α-level dynamically.