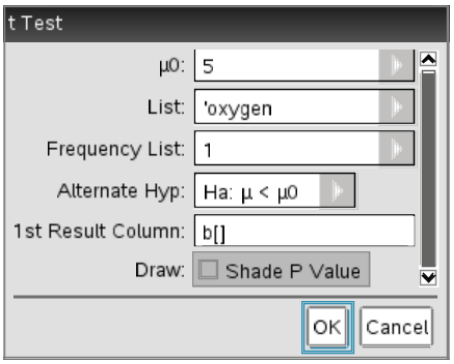
22. One-sample t test for a mean on the calculator

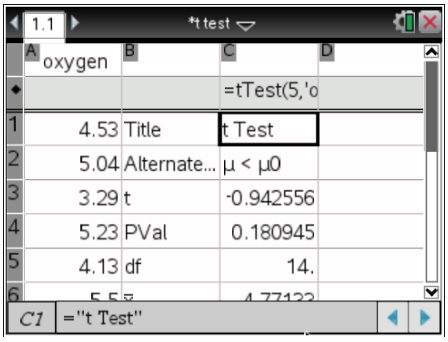
You can perform a one-sample t test using either raw data or summary statistics on the TI-Nspire. Let's use the calculator to carry out the test of H_0: $\mu = 5$ versus H_a: $\mu < 5$ from the dissolved oxygen example on page 592.

Start by entering the sample data into a column in a *Lists & Spreadsheet* page. Name the column oxygen. Then, to do the test:

- Press (menu) → *Statistics* → *Stats Tests* → *t Test*.
- The first dialogue box that appears asks for *Data* or *Stats* in the drop-down box. Make sure *Data* is selected. (tab) to OK and press (enter).
- In the next dialogue box, enter the values shown in the box below. To just "calculate," leave the *Shade PValue* option unchecked. Then (tab) to OK and press (enter).

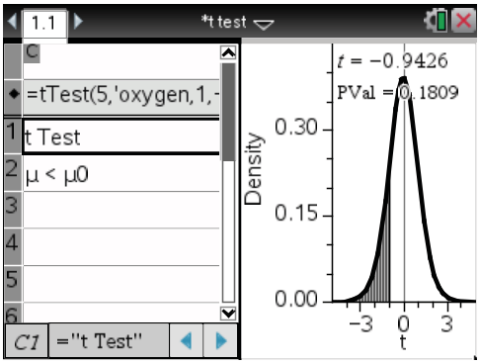


- The results should now appear in the spreadsheet.



The test statistic is $t = -0.94$ and the P-value is 0.1809.

If you check *Shade P Value,* you see a t-distribution curve (df =14) with the lower tail shaded.



If you are given summary statistics instead of the original data, you would select the "Stats" option in the drop-down box instead of "Data".

