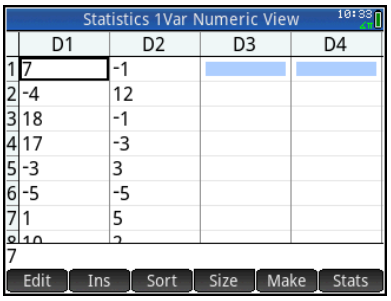
TECHNOLOGY CORNER

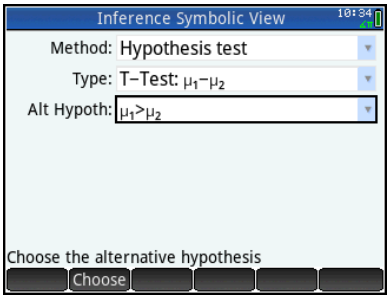
24. Two-sample t tests on the HP Prime

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: μ = 5 versus H_a: μ > 5 from the dissolved oxygen example.

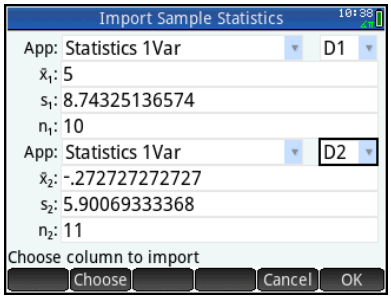
- Open the Statistics 1Var app. Enter the 10 calcium readings in D1 and the 11 placebo readings in D2.



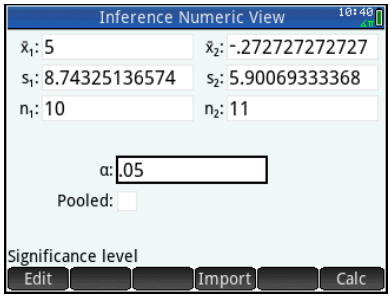
- Open the Inference app and select Significance Test and T-Test: μ_1-μ_2. For the alternative hypothesis H_a, select $\mu_1 > \mu_2$.



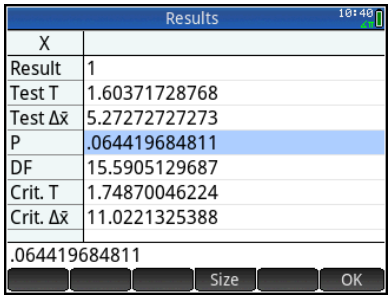
- Press Num and tap Import. In the **App** field for the first sample, select *Statistics 1Var*; in the **Column** field, select *D1*. In the **App** field for the second sample, select *Statistics 1Var*; in the **Column** field, select *D2*. Tap OK.



- The values of $\bar{x}$, s, and n shown for each sample will be pasted into the Inference app Numeric view. Enter α = 0.05 and leave **Pooled** unchecked.



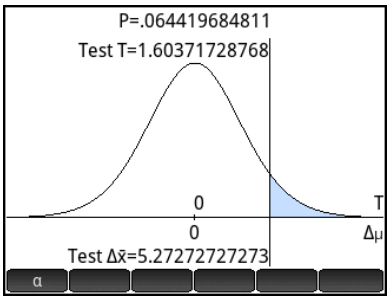
- Tap Calc to see the results numerically



- 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 $\Delta\bar{x}$ 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 $\Delta\bar{x}$ values are shown as well. The test values are close to but not in the shaded reject region. You can press ▲ and ▼ to increase and decrease the α-level dynamically.