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20. One-sample t test for a mean on 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.

1. Enter the data in the Statistics 1Var App and then import into the Inference App.
    *   Open the Statistics 1Var app and enter the 15 dissolved oxygen readings in list D1

    *   Open the Inference app and select Significance Test and T-Test: 1 μ. For the alternative hypothesis H_a, select   μ<$μ_0$.

    *   Press [Num/Setup] for Numeric view. 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 above will be pasted into the Inference app Numeric view.

2. Complete the test.
    *   Enter $μ_0$ = 5 and α = 0.05

    *   Tap [Calc] to see the results numerically

    *   Tap [OK] to return to Numeric view

3. You can also view the results graphically.
   - Press ![Plot] to see the Plot view. The test probability is shown at the top, with the test t and $\bar{x}$ values.

   P=0.180944897198
   Test T=-0.942556201576

   0
   5
   T
   Test x̄=4.77133333333
   α
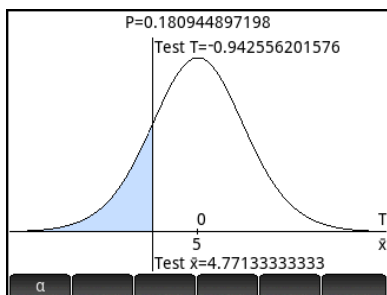
   - Tap ![α] for an alternate view of the test results

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. Press ⊙ and ⊙ to increase and decrease the α-level.

-1.76131013578 ⇐Crit. T
Test T=-0.942556201576

0
5
T
Test x̄=4.77133333333
α•   α=0.05