20. TECHNOLOGY CORNER

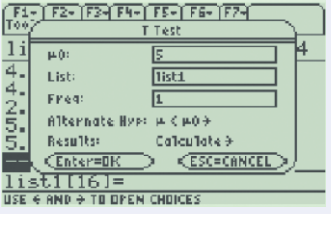
ONE-SAMPLE *t* TEST FOR A MEAN ON THE CALCULATOR

TI-Nspire instructions in Appendix B; HP Prime instructions on the book's Web site.

You can perform a one-sample *t* test using either raw data or summary statistics on the TI-89. 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. Start by entering the sample data in L1/list1. Then, to do the test:

TI-89

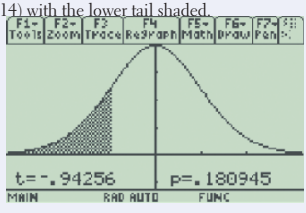
- Press 2nd F1 ([F6]) and choose `T-Test`.
- Adjust your settings as shown.



If you select "Calculate," the following screen appears:

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

If you specify "Draw," you see a t distribution curve (df = 14) with the lower tail shaded.



Note: If you are given summary statistics instead of the original data, you would select the option "Stats" instead of "Data" in the first screen.

AP® EXAM TIP Remember: if you just give calculator results with no work, and one or more values are wrong, you probably won't get any credit for the "Do" step. If you opt for the calculator-only method, name the procedure (*t* test) and report the test statistic ($t = -0.94$), degrees of freedom (df = 14), and *P*-value (0.1809).