

**26. TECHNOLOGY
CORNER**

**CHI-SQUARE TEST FOR GOODNESS
OF FIT ON THE CALCULATOR**

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

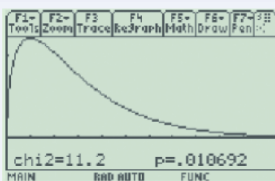
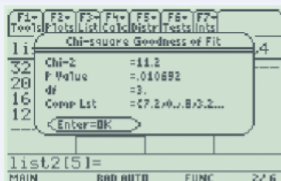
You can use the TI-89 to perform the calculations for a chi-square test for goodness of fit. We'll use the data from the hockey and birthdays example to illustrate the steps.

- Enter the counts.
 - Enter the observed counts in L1/list1. Enter the expected counts in L2/list2.
- Perform a chi-square test for goodness of fit.

Birthday	Observed	Expected
Jan-Mar	32	20
Apr-Jun	20	20
Jul-Sep	16	20
Oct-Dec	12	20

TI-89: In the Stats/List Editor APP, press **2nd** **F1** ((F6)) and choose **Chi2GOF** . . .

Enter the inputs shown below. If you choose **Calculate**, you'll get a screen with the test statistic, *P*-value, and df. If you choose the **Draw** option, you'll get a picture of the appropriate chi-square distribution with the test statistic marked and shaded area corresponding to the *P*-value.



We'll discuss the CNTRB and Comp List results shortly.

AP® EXAM TIP You can use your calculator to carry out the mechanics of a significance test on the AP® exam. But there's a risk involved. If you just give the calculator answer with no work, and one or more of your values is incorrect, you will probably get no credit for the "Do" step. We recommend writing out the first few terms of the chi-square calculation followed by "...". This approach might help you earn partial credit if you enter a number incorrectly. Be sure to name the procedure (χ^2 GOF-Test) and to report the test statistic ($\chi^2 = 11.2$), degrees of freedom ($df = 3$), and *P*-value (0.011).