9. TECHNOLOGY CORNER

RESIDUAL PLOTS ON THE CALCULATOR

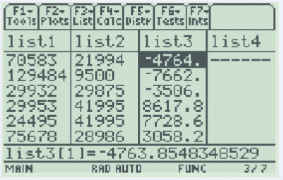
TI-Nspire instructions in Appendix B; HP Prime instructions on the book's Web site.

Let's continue the analysis of the Ford F-150 miles driven and price data from the previous Technology Corner (page 171). You should have already made a scatterplot, calculated the equation of the least-squares regression line, and graphed the line on your plot. Now, we want to calculate residuals and make a residual plot. Fortunately, your calculator has already done most of the work. Each time the calculator computes a regression line, it also computes the residuals and stores them in a list named RESID. Make sure to calculate the equation of the regression line *before* using the RESID list!

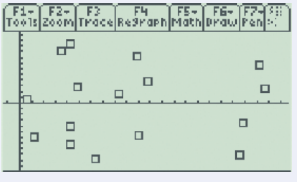
TI-89

1. Display the residuals in L3(list3).

- With list3 highlighted, press 2nd - (VAR-LINK), arrow down to STATVARS, and select the RESID list.



2. Turn off Plot1 and the regression equation. Specify Plot2 with L1/list1 as the *x* variable and L3/list3 as the *y* variable. Use ZoomData to see the residual plot.



The *x* axis in the residual plot serves as a reference line: points above this line correspond to positive residuals and points below the line correspond to negative residuals.

Note: If you don't want to see the residuals in L3/list3, you can make a residual plot in one step by using the RESID list as the *y* variable in the scatterplot.