

28. TECHNOLOGY CORNER

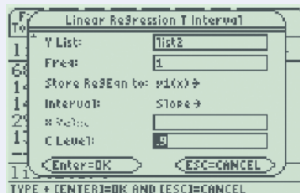
CONFIDENCE INTERVAL FOR SLOPE ON THE CALCULATOR

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

Let's use the data from the previous example to construct a confidence interval for the slope of a population (true) regression line on the TI-89. Enter the x-values (miles driven) into L1/list1 and the y-values (price) into L2/list2.

TI-89

- Press $\boxed{2\text{nd}} \boxed{F2}$ ($\boxed{[F7]}$) and choose LinRegTInt. . . .
- In the LinRegTInt screen, adjust the inputs as shown and press $\boxed{\text{ENTER}}$.



- The linear regression t interval results are shown below. The TI-89 require you to arrow down to see the rest of the output.

| Lin Reg T Interval - Slope | | |
|----------------------------|----------|---------------------|
| 11 | $y=a+bx$ | |
| 33 | C Int | $=[-0.217, -0.108]$ |
| 16 | b | $=-1.62519$ |
| 20 | ME | $=0.054524$ |
| 27 | df | $=14$ |
| 13 | s | $=5740.13$ |
| | SE Slope | $=0.030856$ |
| | + q | $=38257.1$ |
| | Enter=OK | |

Note that s is the standard deviation of the residuals, *not* the standard error of the slope.

AP® EXAM TIP The formula for the t interval for the slope of a population (true) regression line often leads to calculation errors by students. As a result, we recommend using the calculator's LinRegTInt feature to compute the confidence interval on the AP® Exam. Be sure to name the procedure (t interval for slope) and to give the interval $(-0.217, -0.108)$ and df (14) as part of the "Do" step.