Standard Deviation on the TI-82/83

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1. Enter independent data into L1 and dependent data into L2.

2. Using the data in L1 and L2, create a least squares model.

3. Compute the residual values for your data. Let’s say, for example, your model is \( y = -4.69x + 33.12 \) (Hiro’s model). Recall that the residual is actual \( y \) - predicted \( y \). Actual \( y \) data is in L2. We can compute predicted \( y \) values from the \( x \) values in L1 and the linear model. The following calculator equation will compute the residual values and store them in L3:

\[
L2 - (-4.69 \times L1 + 33.12) \rightarrow L3
\]

Note carefully that the left-hand side of this line (before the \( \rightarrow \)) is computing actual \( y \) - predicted \( y \).

4. Now, we want to compute the standard deviation of the residual values in L3.

Press STAT and choose the CALC menu. From the CALC menu choose 1-Var Stats. Your calculator display will now read

1-Var Stats

We want the 1-Var Stats for L3, the residual values, so press the appropriate keys so that the display reads

1-Var Stats L3

and press the ENTER key.

Several values will be computed and displayed. The standard deviation is the value which is preceded by the symbol \( Sx \).