

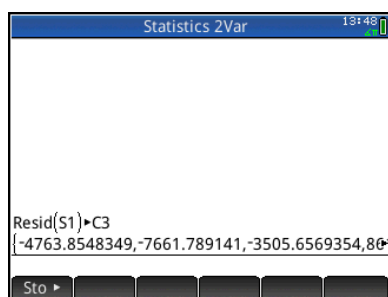


## TECHNOLOGY CORNER

### 9. Residual plots on the HP Prime

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. We can use the Statistics 2Var app function Resid to calculate the residuals and store them in a list. The syntax for the Resid command is  $\text{Resid}(S_n)$ , where  $S_n$  is one of the five Symbolic view definitions S1-S5.

- Calculate the residuals and store them in list C3 of the Statistics 2Var app.
  - With S1 defined from the previous Technology Corner, press to go to the Home view. Press , tap , tap *Statistics 2Var*, and select *Resid*. Enter S1 as the argument and tap after the right parenthesis. Tap then enter C3 and press .



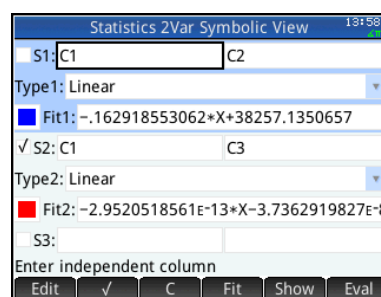
- Tap to see the residuals in list C3.

	C1	C2	C3	C4
1	70583	21994	-4.763855E3	
2	129484	9500	-7.661789E3	
3	29932	29875	-3.505657E3	
4	29953	41995	8.6177644E3	
5	24495	41995	7.7285549E3	
6	75678	28986	3.0582152E3	
7	8359	31891	-5.004299E3	
8	4447	37991	458.363739	
9	34077	34995	2289.64046	
10	58023	29988	1.1838881E3	

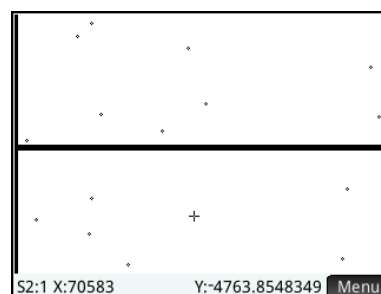
-4763.8548349

Edit Ins Sort Size Make Stats

- Uncheck S1 (select it and tap ). Specify S2 with list C1 as the x-variable and list C3 as the y-variable.



- Press and select *Autoscale* to see the residual plot.



The x axis in the residual plot is a reference line: points above it are positive residuals and points below it are negative residuals.

- Press and tap *Stats*. Tap *Y* to see the sum of the residuals and the standard deviation of the residuals.

	S2		
X			
ȳ	-5.625E-8		
ΣY	-.0000009		
ΣY²	4.61288E8		
sY	5.54549E3		
σY	5.36940E3		
serrY	1.38637E3		

5545.49371849

Stats X Y• Size Column OK

Tap when you are done.