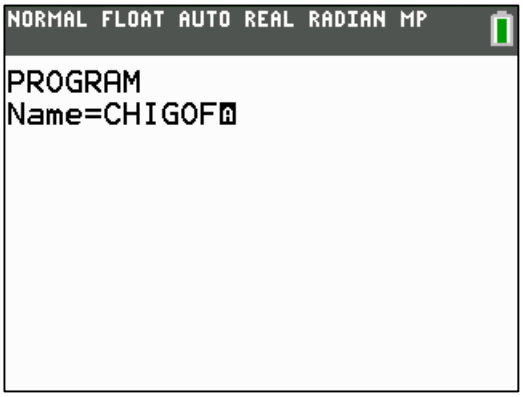
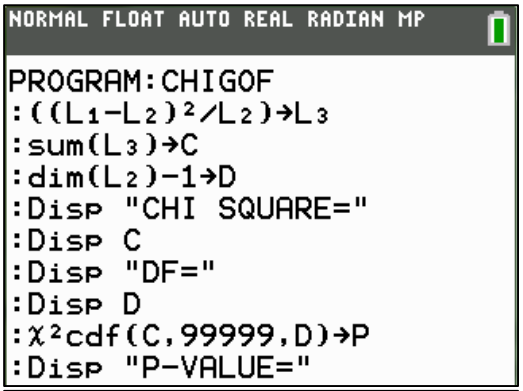
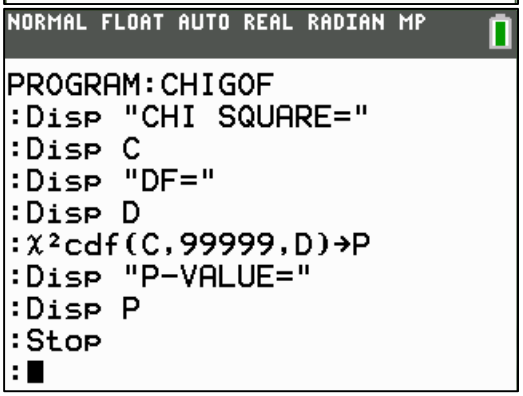
How to Program The Chi-Square Goodness of Fit (CHIGOF)

Press [PGRM] > NEW and hit enter.
Enter the name CHIGOF and hit enter



Now type in the following into your calculator
:$((L_1 - L_2)^2/L_2) \rightarrow L_3$
:sum$(L_3) \rightarrow C$
:dim$(L_2) - 1 \rightarrow D$
:Disp "CHI SQUARE="
:Disp C
:Disp "DF="
:Disp D
:$x^2cdf(C, 99999, D) \rightarrow P$
:Disp "P-VALUE="
:Disp P
:Stop



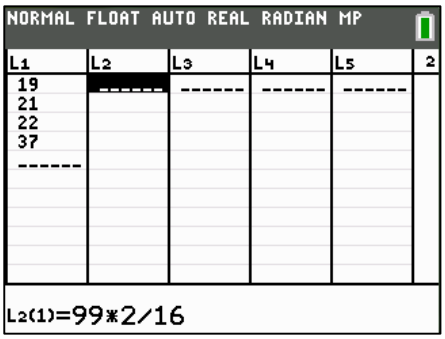


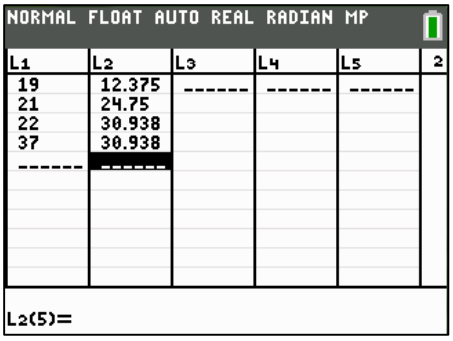
L_1 can be found by pressing [2ND] > [1]
→ can be found by pressing [STO→]
sum(can be found by pressing [2ND] > [STAT] > select MATH > select sum(and press [ENTER]
dim(can be found by pressing [2ND] > [x^{-1}] > select MATH > select dim(and press [ENTER]
Disp can be found by pressing [PRGM] > select I/O > select Disp and press [ENTER]
= can be found by pressing [2ND] > [MATH] > select = and press [ENTER]
$x^2cdf($ can be found by pressing [2ND] > [VARS] > select $x^2cdf($

https://www.youtube.com/watch?v=UGEukx2EaEk

Example 2 (page 560)
World Series Games. The table below lists the numbers of games played in the baseball World Series, as of the writing of the text book. The table includes the expected proportions for the numbers of games in a World Series, assuming that in each series, both teams have about the same chance of winning. Use a 0.05 significance level to test the claim that the actual numbers of games fit the distribution indicated by the probabilities.

Numbers of Games in World Series Contests				
Games Played	4	5	6	7
Actual World Series Contests	19	21	22	37
Expected Proportion	2/16	4/16	5/16	5/16





Observed Frequency O	Expected Frequency $E = np$
19	$99 \cdot \frac{2}{16} = 12.3750$
21	$99 \cdot \frac{4}{16} = 24.7500$
22	$99 \cdot \frac{5}{16} = 30.9375$
37	$99 \cdot \frac{5}{16} = 30.9375$

L1 is ALWAYS the observed frequency and L2 is the expected frequency. 99 comes from the total number of World Series Contests (19+21+22+37=99).