TI-83 or TI-84 Calculator Instructions for Statistics

To enter data into a list
   1. Choose STAT, EDIT, Edit
   2. Enter the data into a vertical list (and remember the appropriate list number (e.g., L2) for use later

To find descriptive statistics
   1. Enter your data in a list
   2. Choose STAT, then CALC, then 1-Var Stats
   3. Enter the appropriate list (e.g., L1) and enter
It will look like: 1-Var Stats L1

To find probably from a normal distribution when asked to find P(lower<X<upper)
   1. Choose DISTR, normalcdf
   2. Inside the parentheses, enter the following (in the following order): Lower limit, upper limit, mean, stddev
It will look like: normalcdf (lower, upper, mean ,stddev)
(note that if z, mean=0 and stddev=1)
(note that is there is no lower limit, use negative infinity; if there is no upper limit, use positive infinity)

To find x_0 from a normal distribution such that $P(X < x_0)$
   1. Choose DISTR, invnorm
   2. Inside the parentheses, enter the following (in the following order): probability in a less than direction, mean, stddev
It will look like: invnorm (prob, mean, stddev)
(note that if z, mean=0 and stddev=1)
(note that if $\overline{X}$, you must enter stddev/$\sqrt{n}$ for stddev)

To find P(X=x) from a binomial distribution
   1. Choose DISTR, binompdf
   2. Inside the parentheses, enter the following (in the following order): n, p, x
It will look like: binompdf (n,p,x)

<u>To find P(X≤x) from a binomial distribution</u>
1. Choose DISTR, binomcdf
2. Inside the parentheses, enter the following (in the following order): n, p, x

It will look like: binomcdf (n,p,x)

<u>To calculate the least squares regression line</u>
1. Enter the x data into a list and the y data into a list
2. Choose STAT, CALC, LinReg(a+bx)
3. Enter the appropriate lists corresponding to x,y

If x-data is stored in L1 and y-data is stored in L2, it will look like:
LinReg(a+bx) L1,L2
4. The equation will appear with a=y-intercept and b=slope

<u>To calculate residuals</u>
1. Proceed as above with least square regression line
2. STAT, EDIT, Edit
3. Choose an empty list and above the horizontal line enter the equation replacing the appropriate list for x (e.g., 1.1+2L1). Press enter and the list will populate with the predicted values of y according to the equation of the line.
4. Choose an empty list and above the horizontal line enter the equation for residuals (observed y – predicted y) using the appropriate list numbers (e.g., L2 – L3). Press enter and the list will populate with the residuals.

<u>To create a Box-Plot</u>
1. Enter data into a list
2. Choose StatPlot
3. For a single Box-Plot, Select Plot1
4. Select On
5. Choose the box-plot (either first or second on the second line of choices) and enter the appropriate list numbers
6. Choose Zoom and ZoomStat, enter

To enter multiple Box-Plots on the screen, choose Plot2 and repeat. You can put up to 3 on the screen at once.

To find a confidence interval for μ known σ
1. If you have data, enter into a list
2. Choose STAT, TESTS, Z-Interval
3. Select Data if you have entered your data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information and select Calculate

To find a confidence interval for μ unknown σ
1. If you have data, enter into a list
2. Choose STAT, TESTS, T-Interval
3. Select Data if you have entered data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information and select Calculate

To find a confidence interval for the difference between 2 means (paired)
1. If you have the raw data, enter each sample in a list. In an empty list, go above the horizontal line and enter the appropriate equation for the difference (e.g., L1 – L2). Press enter. New list will populate with the differences. This will be the list you identify below as your data
2. Choose STAT, TESTS, T-Interval
3. Select Data if you have entered data into a list (e.g., #1 above) OR Select Stats if you only have summary statistics
4. Enter the appropriate information and select Calculate

To find a confidence interval for the difference between 2 means (not paired)
1. If you have data, enter into two separate lists
2. Choose STAT, TESTS, 2-SampTInt
3. Select Data if you have entered data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information (note, if not pooled, Pooled=no) and select Calculate

<u>To find a confidence interval for proportion</u>
1. Choose STAT, TESTS, 1-PropZInt
2. Enter the appropriate information and select Calculate

<u>To find a confidence interval for the difference between 2 proportions</u>
1. Choose STAT, TESTS, 2-PropZInt
2. Enter the appropriate information and select Calculate

<u>To find a confidence interval for β</u>
1. Enter x data and y data into two lists
2. Choose STAT, TESTS, LinRegTInt
3. Enter the appropriate information and select Calculate

<u>To find the test statistic & p-value of a Z-Test (test of μ known σ)</u>
1. If you have data, enter into a list
2. Choose STAT, TESTS, Z-Test
3. Select Data if you have entered data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information and select Calculate

<u>To find the test statistic & p-value of a T-Test (test of μ unknown σ)</u>
1. If you have data, enter into a list
2. Choose STAT, TESTS, T-Test
3. Select Data if you have entered data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information and select Calculate

<u>To find the test statistic & p-value for a test of the difference between 2 means (paired populations)</u>
1. If you have the raw data, enter each sample in a list. In an empty list, go above the horizontal line and enter the appropriate equation for the difference (e.g., L1 – L2). Press enter. New list will populate with the differences. This will be the list you identify below
2. Choose STAT, TESTS, T-Test
3. Select Data if you have entered data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information and select Calculate

To find the test statistic & p-value for a test of the difference between 2 means (not paired)
1. If you have data, enter into two separate lists
2. Choose STAT, TESTS, 2-SampTTest
3. Select Data if you have entered data into a list OR Select Stats if you only have summary statistics
4. Enter the appropriate information (note, if not pooled, Pooled=no) and select Calculate

To find the test statistic & p-value for a test of proportion
1. Choose STAT, TESTS, 1-PropZTest
2. Enter the appropriate information and select Calculate

To find the test statistic & p-value for a test of the difference between 2 proportions
1. Choose STAT, TESTS, 2-PropZTest
2. Enter the appropriate information and select Calculate

To find the test statistic & p-value for a test of β
1. Enter x data and y data into 2 lists
2. Choose STAT, TESTS, LinRegTTest
3. Enter the appropriate information and select Calculate

To perform an ANOVA
1. Enter the sample data into individual lists
2. Choose STAT, TESTS, ANOVA(
3. Enter the appropriate lists and press enter
For example, if you have 3 samples, it will look like: ANOVA(L1,L2,L3)