How to use the TI-Nspire CX For Beginners

By: North Middle, Team Blue, Period 8

Table of Contents

Resetting the Calculator……..…….....4

Leave Press-to-Test……..5

Reset Graphing Window……..…….....6

Clearing Graphs/Calculations……..……...7

Find Factors of a Number……..…….....8

Increase Number of Decimal Places……..…….....9

Convert From Fraction to Decimal……..……10

Check Factors of a Polynomial……..……...11

Reduce Fractions……..…….....12

Find Coordinates of a Vertex……..…….....13

Calculate 5 Number Summary/Mean……...14

Graph Square Root Function……..…….....16

Graph Absolute Value Function……..……17

Graph Piecewise Function……..…….....18

Make a Box Plot……....19

Make a Scatter Plot……..…….....21

Make a Histogram……..…….....22

FInding Linear Regression……23

Find Correlation Coefficient……..…….....25

Find Exponential Regression……....27

Find Quadratic Regression……....28

Make a Residual Plot……..……..29

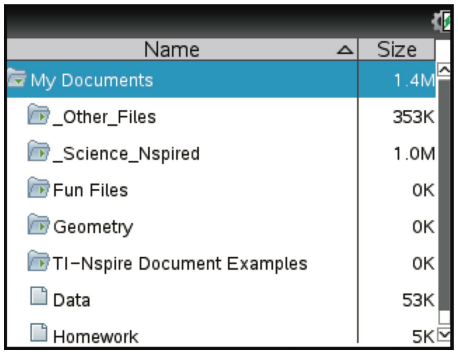
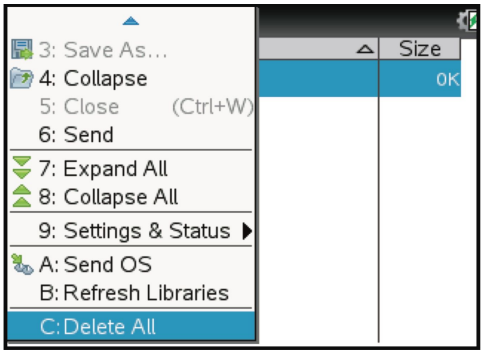
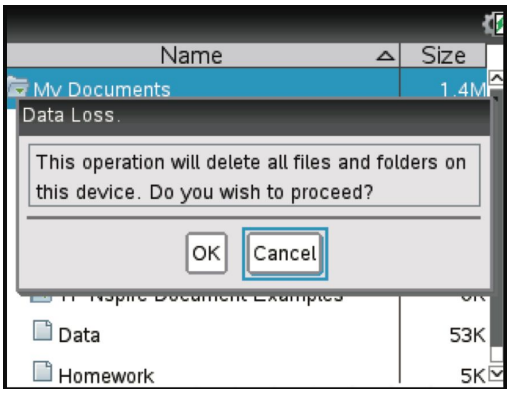
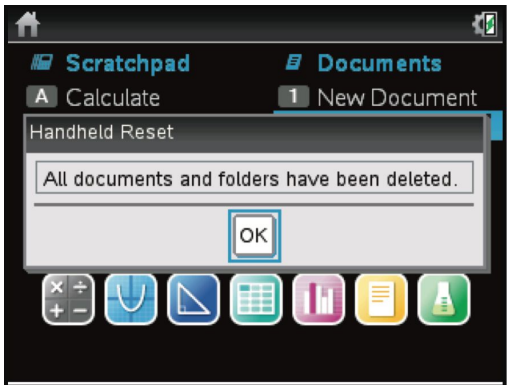
Graph a Residual Plot……31

Graph Systems of Equations……...32

Graph Systems of Inequalities……33

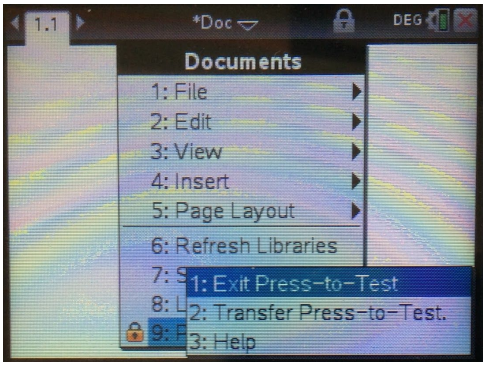
Finding Points of Intersection……..34

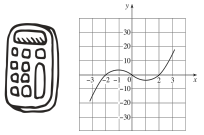
Resetting the Calculator

Step 1:	Step 2:
Press to [on] [2] to open my documents. 	Press menu. Select C: Delete All. 
Step 3:	**Step 4:**
The Data Loss box opens. Click OK to confirm clearing the data. 	Click OK to complete. 

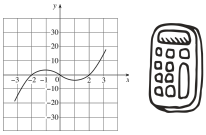
Leave Press-to-Test

To exit Press-to-Test mode, you need two calculators.

Step 1:	**Step 2:**
Connect the calculators with cable provided when you bought the calculator, then turn both on.	Press OK on the calculator that you are going to take out of press to test mode
Step 3:	**Step 4:**
Then select My Documents	Press Doc and go down to press to test, then press enter 

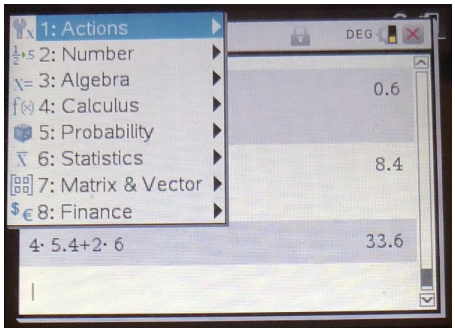
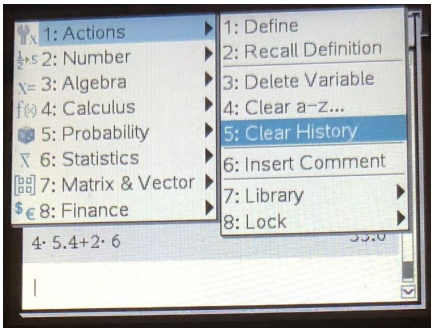


Reset Graphing Window

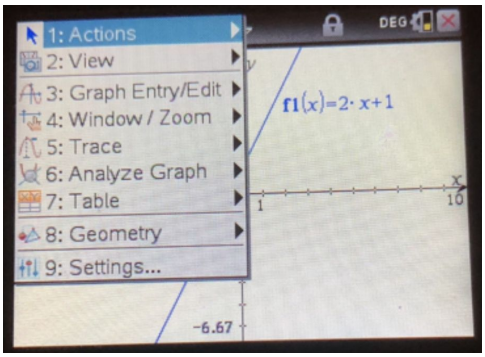
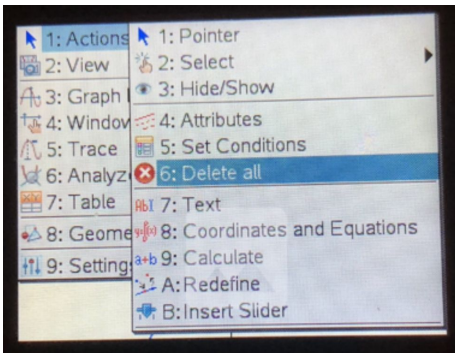


Step 1:	**Step 2:**
Select the graph option on the home screen, then when you are on the graph screen press menu	Go to the fourth option and select Window/Zoom after selecting this more options should come up select their first one it says Window Settings
Step 3:	**Step 4:**
Then Finally to change the graphing window on window setting change the Xmin or Xmax then you have reset the graphing window	

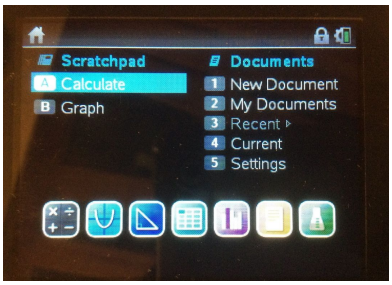
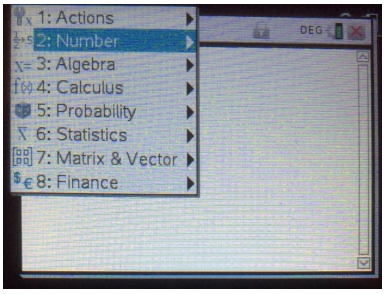
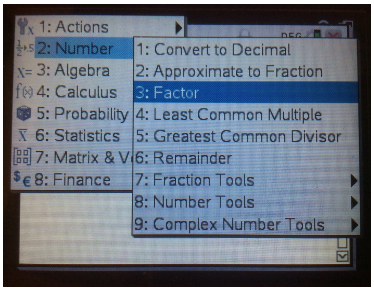
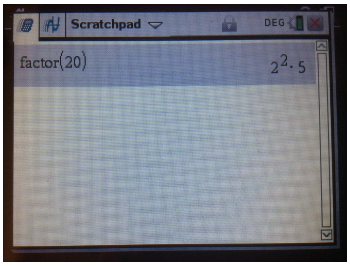
Clearing Graphs/Calculations

Step 1:	**Step 2:**
Click Menu, Click #1 (Actions)	Click #5 (Clear History)
	

Clearing Graphs

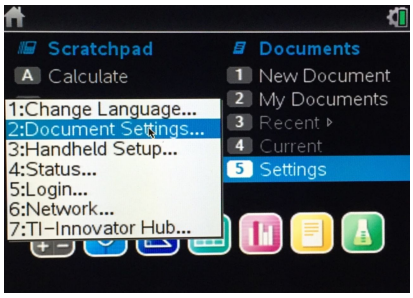
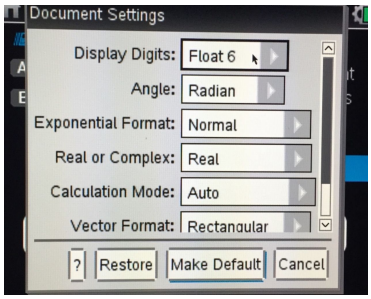
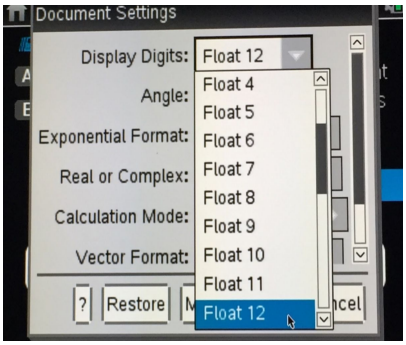
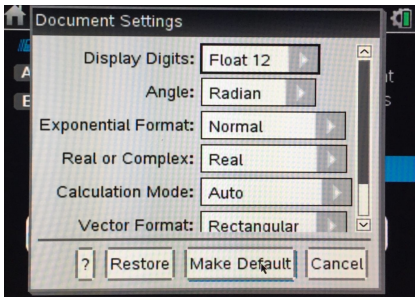
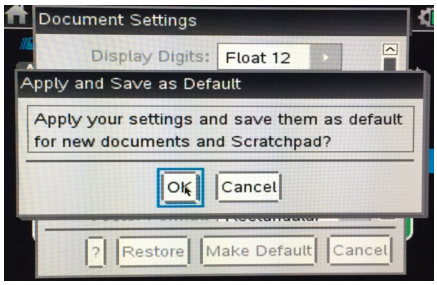
Step 1:	**Step 2:**
Click Menu, Click #1 (Actions)	Click #6 (Delete All)
	

Find Factors of a Number

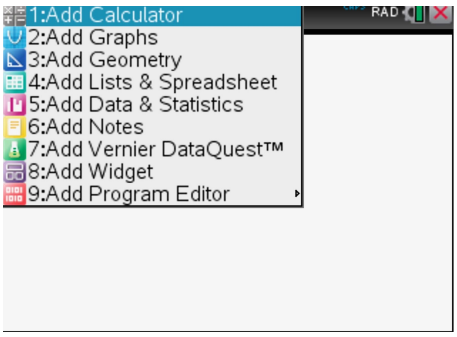
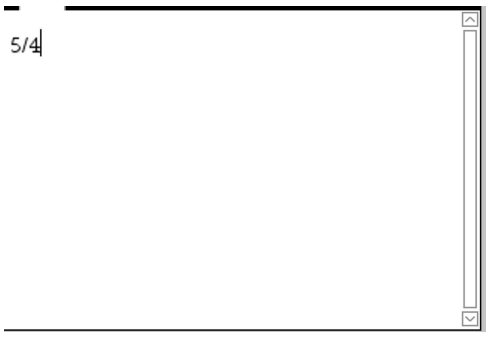
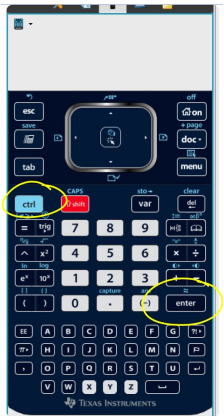
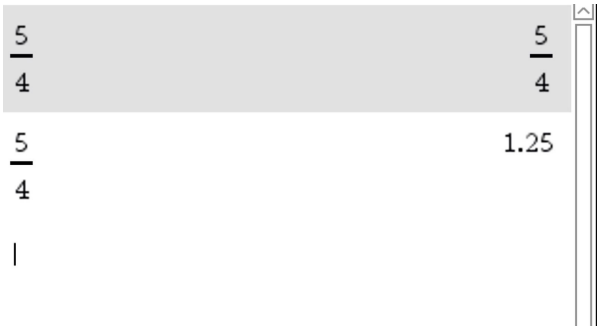
Step 1:	Step 2:	Step 3:
Go to calculate 	Press Menu, select number 	Press Factor 
Step 4:	**Step 5:**	**Step 6:**
Enter the number, press Enter (Example: 20) 	Rewrite the number (2x2x5)	Take 2 of the same Number, put it on the outside of the radical. (2 radical 5). Repeat until simplest radical form

Increase Number of Decimal Places

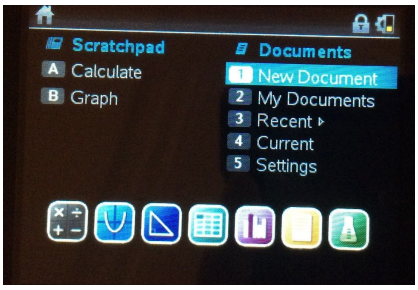
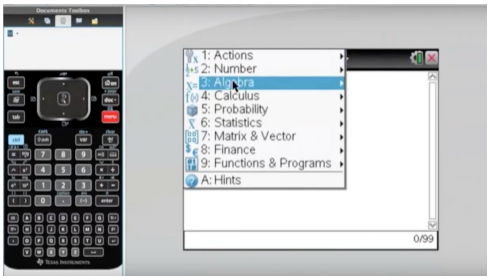
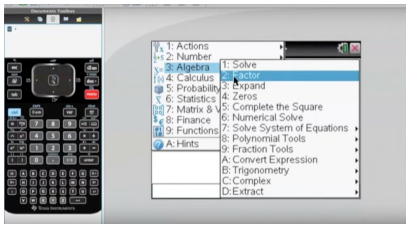
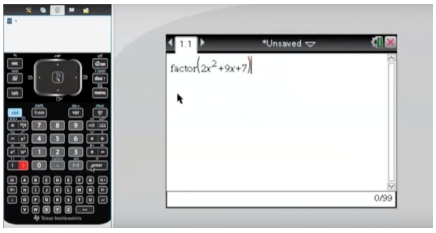
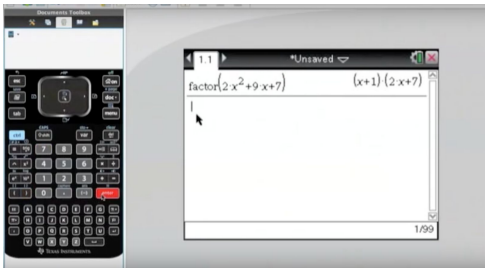
0.25 0.25

Step 1:	Step 2:	Step 3:
Click: **5 (Settings)**	Click: **2 (Document Settings)** 	Click on **Display Digits** 
Step 4:	**Step 5:**	**Step 6:**
Scroll down to **float 12** 	Click: **make default** 	Click: **OK** 

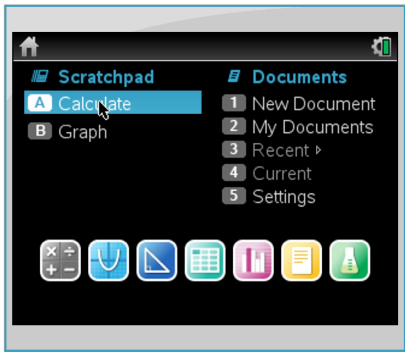
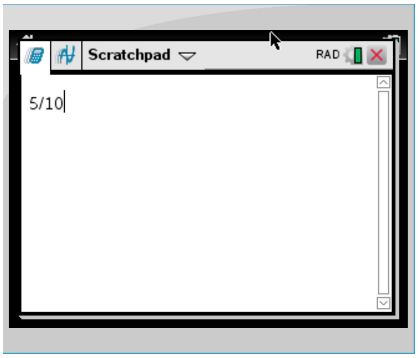
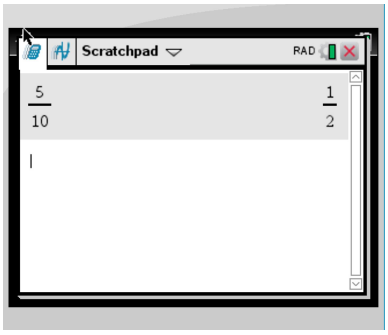
Convert from Fraction to Decimal

Step 1:	**Step 2:**
Go to **New Document**. After that, press **Add Calculator** 	Put in the fraction or numbers you are dividing. 
Step 3:	**Step 4:**
Press **CTRL** then **ENTER** 	After you've done that, you should have the fraction and the decimal. 

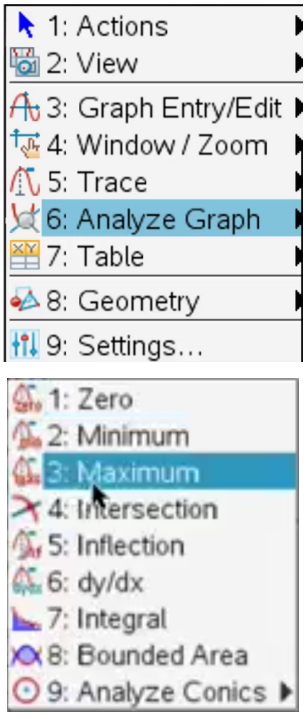
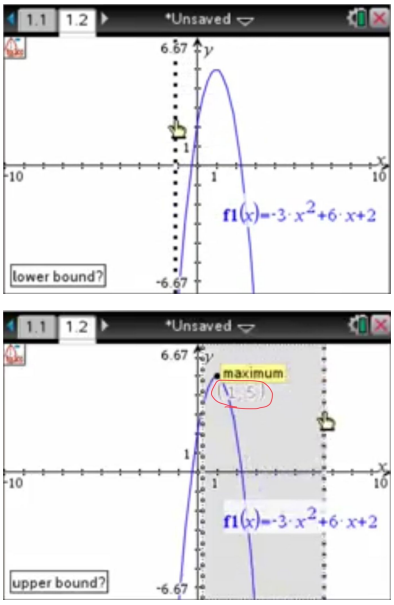
Check Factors of a Polynomial

Step 1:	Step 2:	Step 3:
Make a new document 	Hit the **Menu** and press **Algebra** 	Press **factor** 
Step 4:	**Step 5:**	
Insert polynomial in parenthesis 	Hit enter and see factors on the right 	

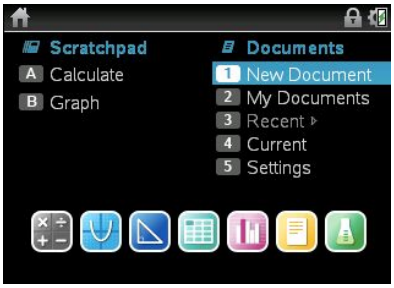
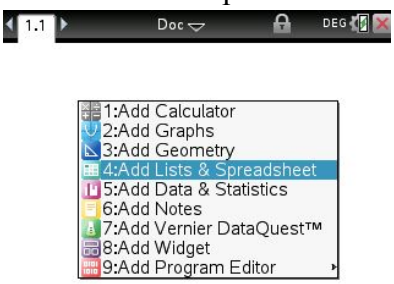
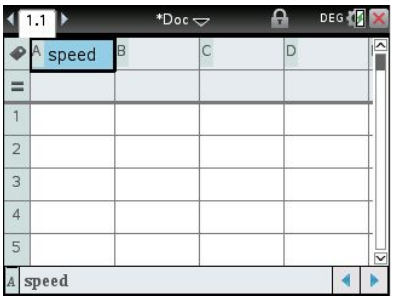
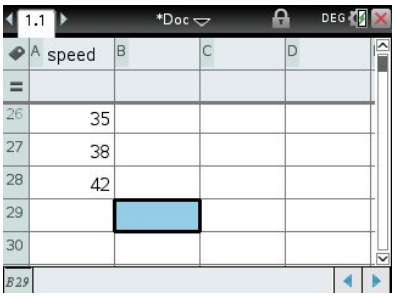
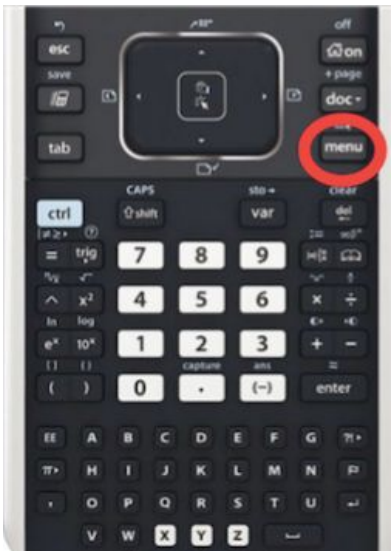
Reduce Fractions

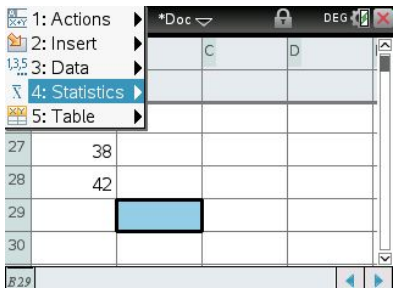
Step 1:	Step 2:
Press calculate on the home screen. 	Enter the fraction you want to reduce. In this example, it is 5/10. 
Step 3:	**Step 4:**
Press Enter	The fraction on the right is your reduced fraction. 

Find Coordinates of a Vertex

Step 1:	Step 2:	Step 3:
Graph a function that has either a maximum or a minimum.	Click "**menu**", "**analyze graph**", and click either "**maximum**" or "**minimum**", depending on what your graph has. 	Place the "**lower bound**" line to the left of the vertex and click "**enter**", and place the "**upper bound**" line to the right of the vertex and click "**enter**" 

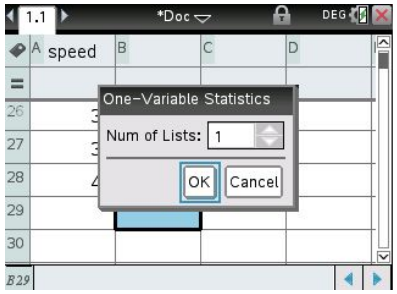
Calculate Five Number Summary/Mean

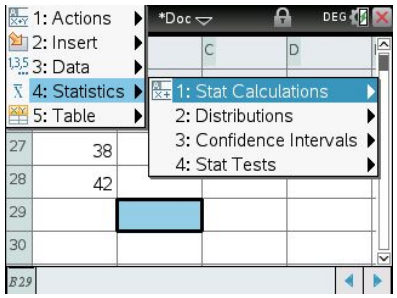
Step 1:	Step 2:	Step 3:
To find the five number summary and mean First select new document on the home screen 	After you press menu select #4 Add Lists & Spreadsheets 	In the top box of the first column name the variable 
Step 4:	**Step 5:**	**Step 6:**
Input your data in the first column 	When you finish inputting the data move to a box next to the column 	When you select this box press the menu button 
Step 7:	**Step 8:**	**Step 9:**
After you press menu select "Statistics"	Select "Stat Calculations"	Select #1 One-Variable Statistics



Step 10:

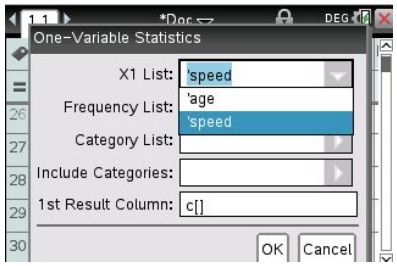
On the next screen press "OK"

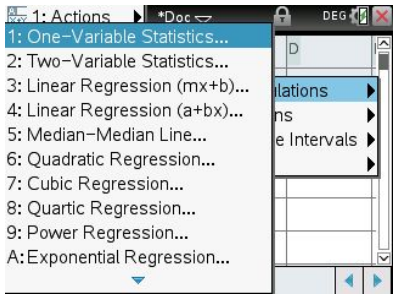




Step 11:

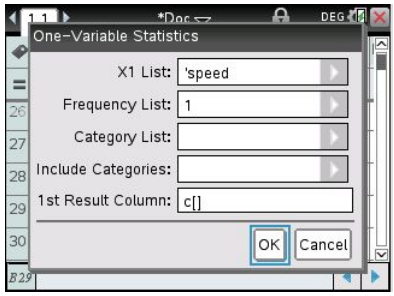
In the X1 List press the pad right and select the name of the first column





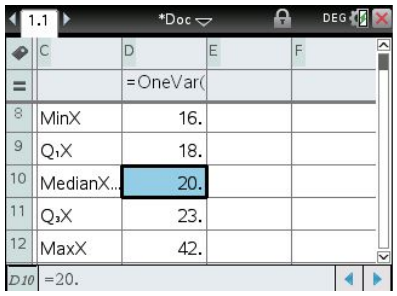
Step 12:

Scroll down and press OK



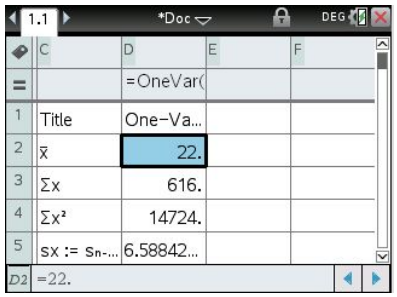
Step 13:

Rows 8-12 display the 5 number summary

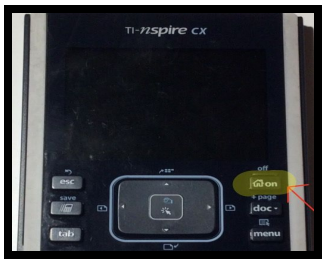
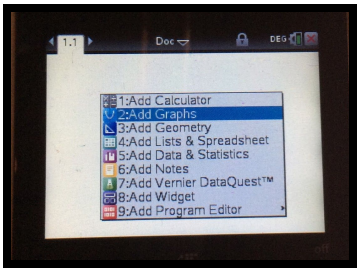
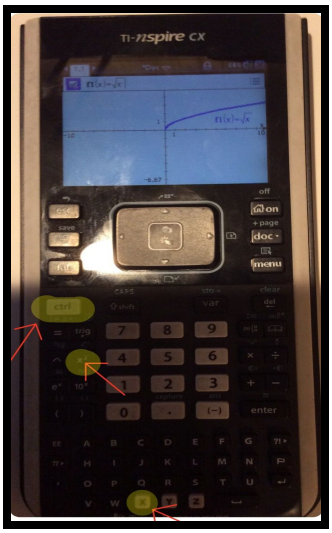


Step 14:

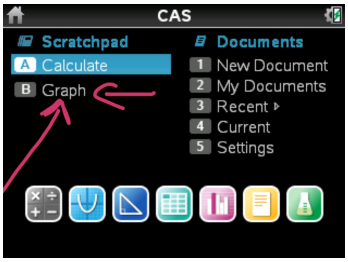
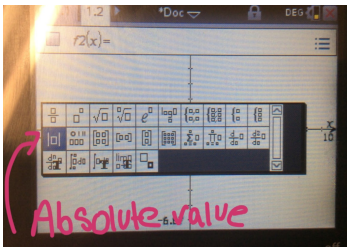
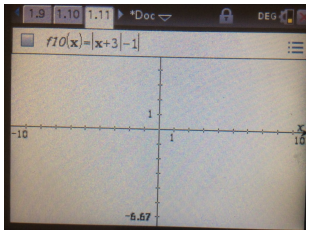
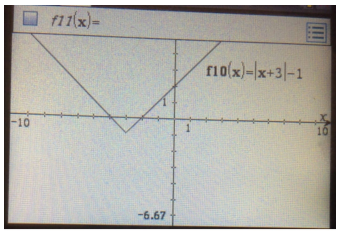
Row 2 or $\bar{x}$ will display the mean



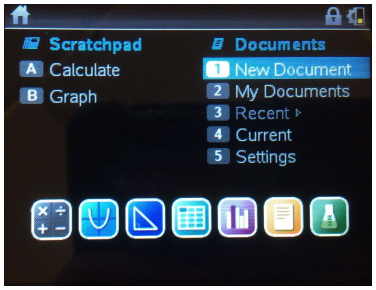
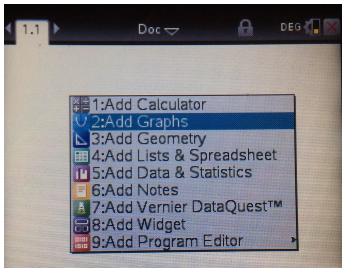
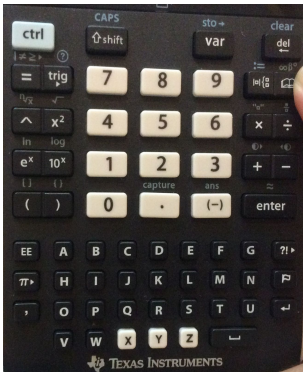
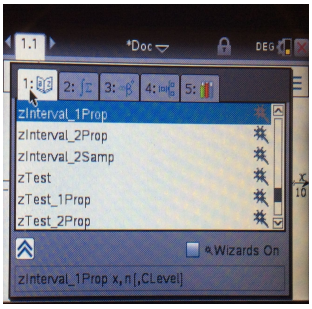
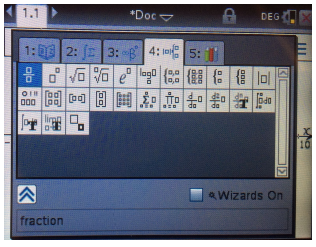
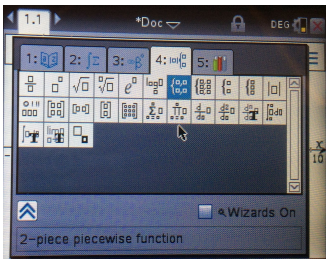
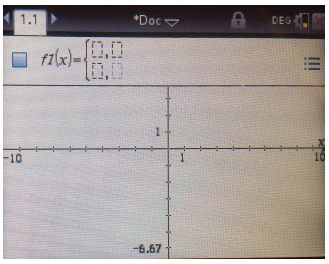
Graph Square Root Function

Step 1:	Step 2:	Step 3:
Turn on the calculator with the "on button". 	Press 1: to create a new document. 	Press 2-to add graphs 
Step 4:	**Step 5:**	
In order to graph the square root of "x", you would press **ctrl, "x squared",** then "**x**", and then press **enter** to see the graph. 	(optional): If you would like to see the table of values for this graph you must simply press "**ctrl**'' and "**t**" and to get rid of the table just press "**ctrl**'' and "**t**" again.	

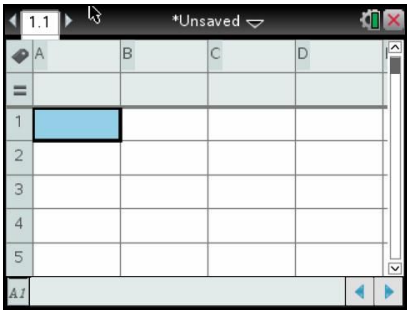
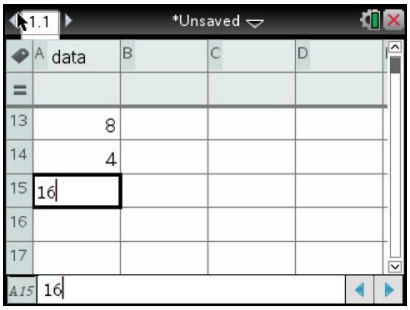
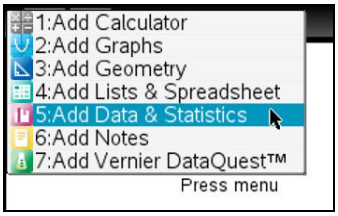
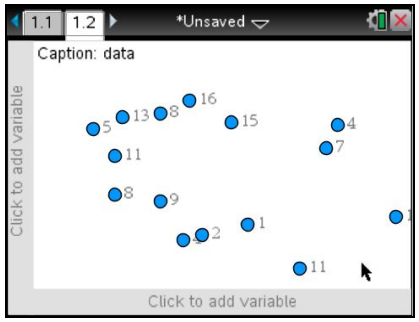
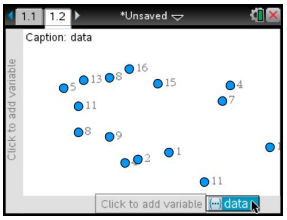
Graph Absolute Value Functions

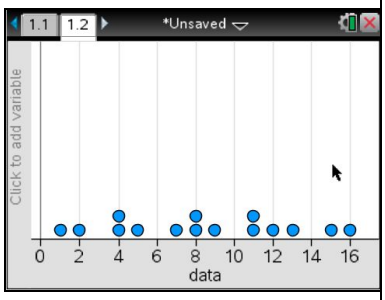
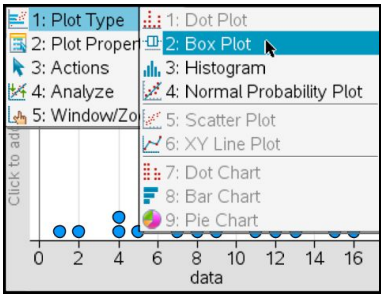
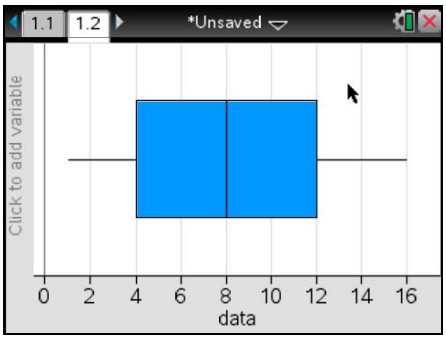
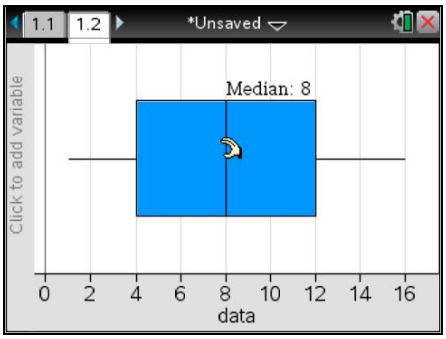
Step 1:	Step 2:	Step 3:
Go to graph on the home page 	Press the button that looks like boxes to the left of the book 	Select absolute value sign when table comes up 
Step 4:	**Step 5:**	
Insert function into table after absolute value signs are selected 	Hit enter and see your graph! 	

Graph a Piecewise Function

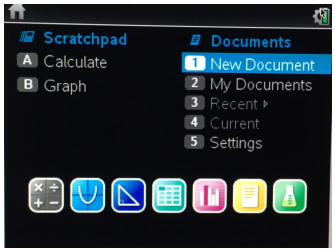
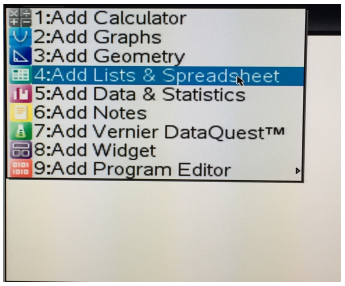
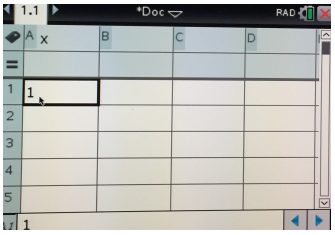
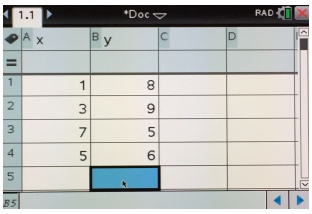
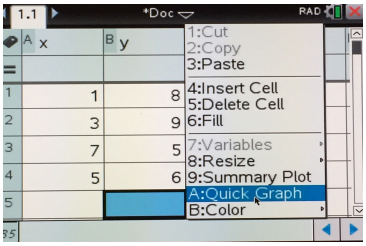
Step 1:	Step 2:	Step 3:
Click: New Document 	Click: Add Graphs 	Click: Book Key  
Step 4:	**Step 5:**	
Go to #4 	Click: Piecewise Function 	

Making a Box Plot

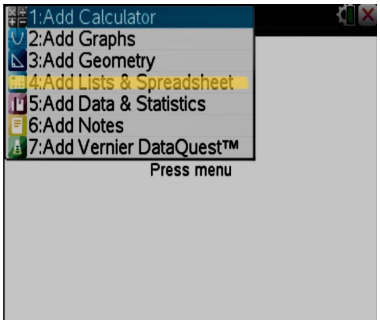
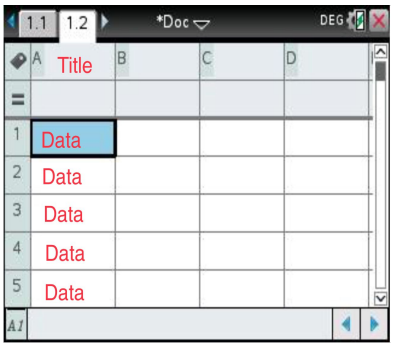
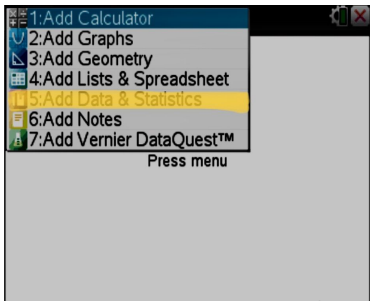
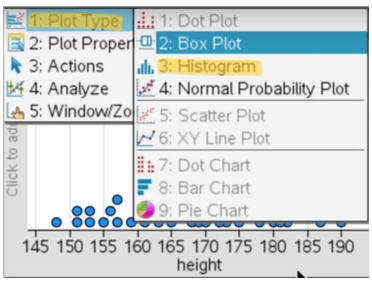
Step 1:	Step 2:	Step 3:
Open a new document from the homescreen 	Add a new spreadsheet by clicking menu and choosing option four, **"Add Lists & Spreadsheet."** 	Name your spreadsheet and enter your data.  
Step 4:	**Step 5:**	**Step 6:**
Hit the **control button (ctrl)**, then the button that says "**doc.**" A new document should appear with the same seven options from before Choose option five, **"Add Data and Statistics."** 	A new screen should appear with your data plotted. 	At the bottom of the screen where your data is plotted, there is a rectangle that says "Click to add variable" where the name of the x-axis usually is. When you click on this rectangle, an option to choose a list from your spreadsheet should appear. Click on the data list that you want to make into a box plot. 

Step 7:	Step 8:	Step 9:
When you click on your list, your data should become plotted in a dot plot.  	To make your dot plot into a box plot, press menu, then choose option 1, **"Plot Type,"** and lastly from there, choose **option 2, "Box Plot."**  	Your finished Box Plot should look something similar to this…  With your finished Box Plot, you can easily find and display the five-number summary of your data **(Lower Extreme, Q_1, Median, Q_3 and Upper Extreme)** plus any outliers you may have within your data set… 

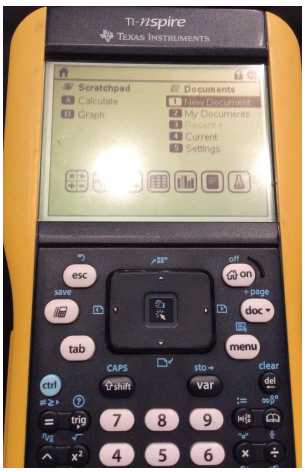
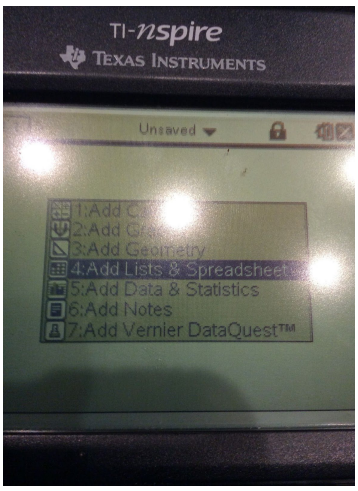
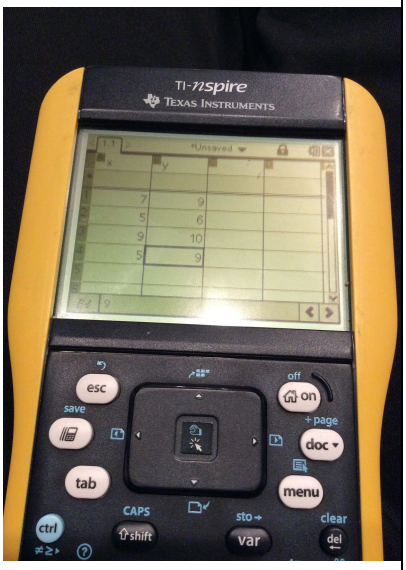
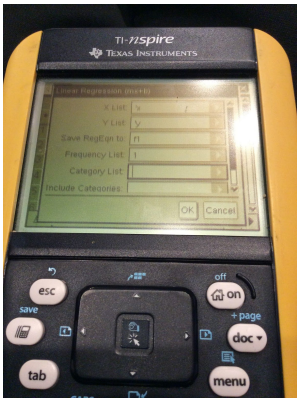
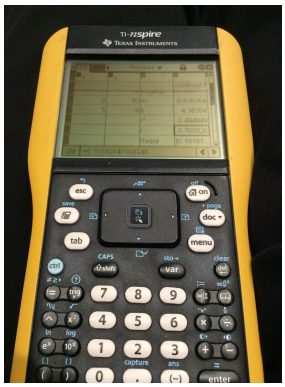
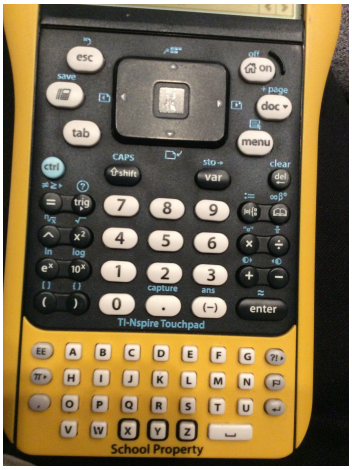
Making A Scatter Plot

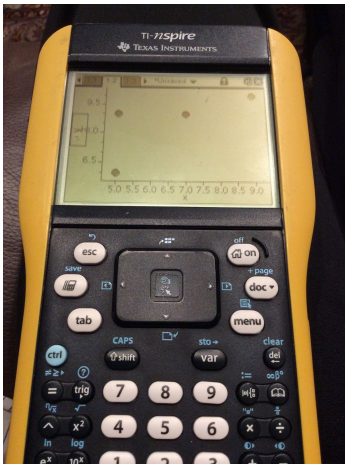
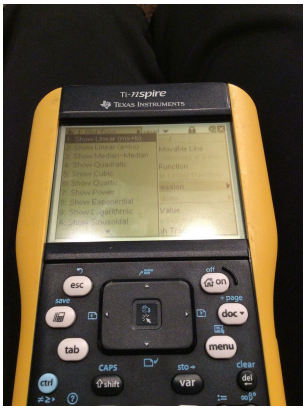
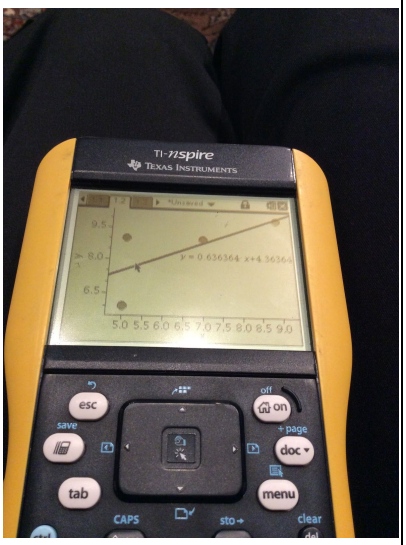
Step 1:	Step 2:	Step 3:	Step 4:
Click 1: New Document 	Click 4: Lists and Spreadsheets 	Click the up arrow twice to get to the top gray box. Add a title using letters. 	Click the down arrow to get to the first white box. Add your numbers in. (Do the same with both sets of numbers) 
Step 5:	**Step 6:**		
When done, click the down arrow so you aren't in a number box. 	Click **control**. 	Click **menu**. 	Click **A: Quick Graph** 

Making A Histogram

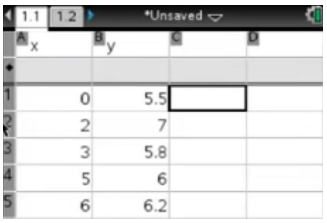
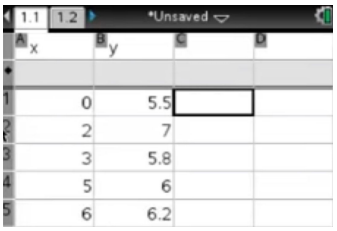
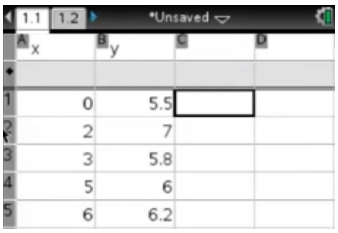
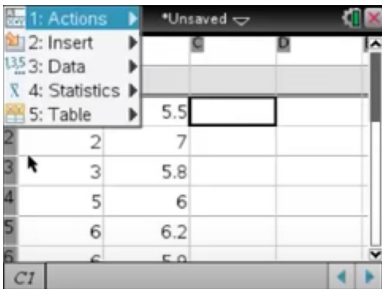
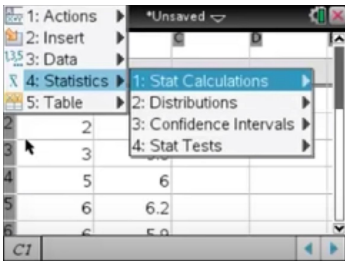
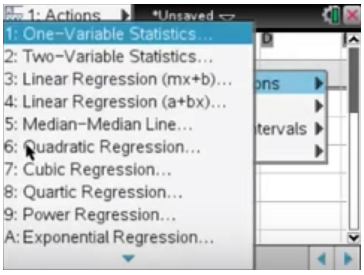
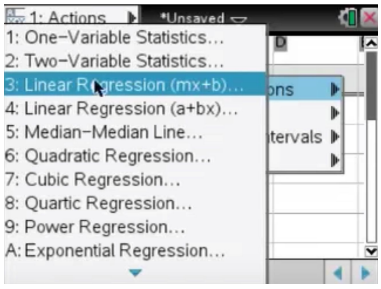
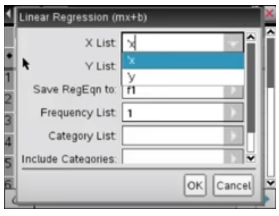
Step 1:	Step 2:	Step 3:
Select *New Documents* Click: *4. Add Lists & Spreadsheet*	Insert title for Column A. Insert data in each section for Column A	Click: Ctrl on the left side Click: *Doc* on the right side Click: *5. Add Data & Statistics*
		
Step 4:	**Step 5:**	
Click on the bottom to add a variable	Click *menu* on the right side Select *1. Plot Type* Select *3. Histogram*	
		

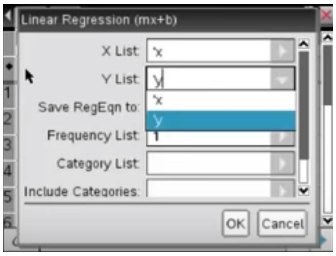
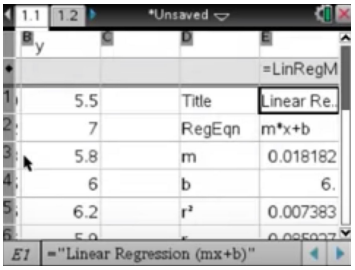
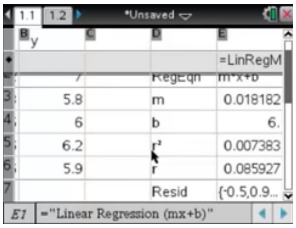
Finding Linear Regression

Step 1:	Step 2:	Step 3:
Make a new document. 	Select **Add Lists or Spreadsheets**. 	Enter your x and y values into the corresponding columns. 
Step 4:	**Step 5:**	**Step 6:**
Click **Menu**, go to **Statistics**, then **Stat Calculations**. Select **Linear Regression** (mx+b). 	Change the name of the x list to the name of your x variable and the name of your y list to the name of your y variable. 	Press **Control I** and **Add Data and Statistics**. 

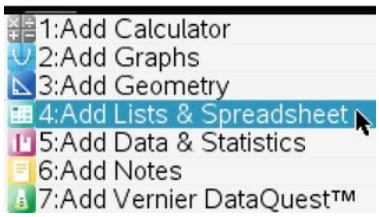
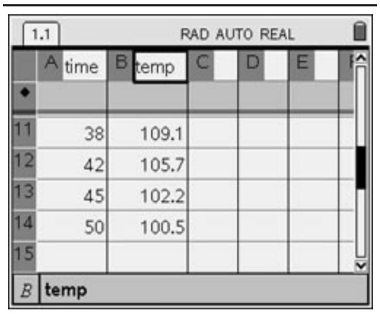
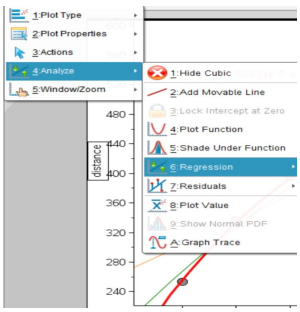
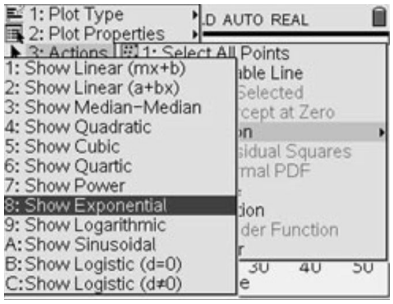
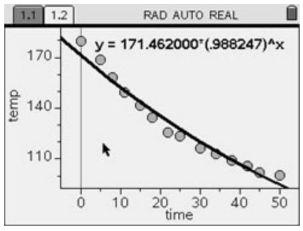
Step 7:	**Step 8:**	**Step 9:**
When prompted, add in the names of your x and y lists into their corresponding boxes. 	Click **Menu**, **Analyze**, **Regression**, **Show Linear (mx+b)**. 	Whoopee, you're done! 

Finding the Correlation Coefficient

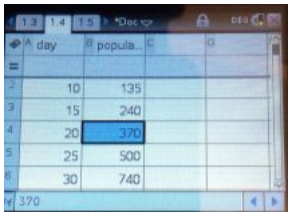
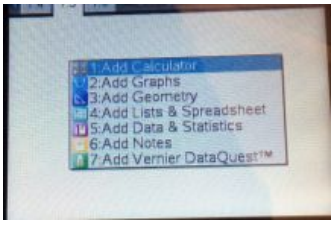
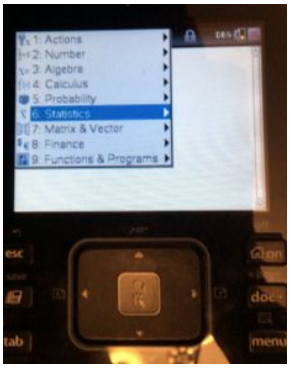
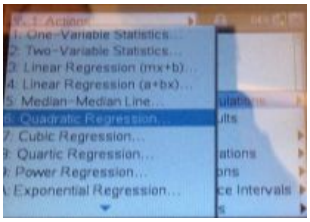
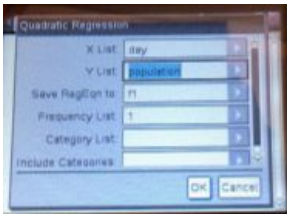
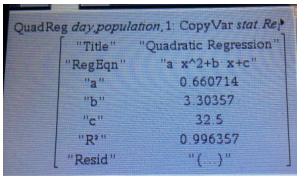
Step 1:	Step 2:	Step 3:
Open up a new *Data & Statistics* document with the icon that looks like a spreadsheet. 	List all of your bivariate data inside the two columns.  	Identify which variable is the X-variable and which variable is the Y. 
Step 4:	**Step 5:**	**Step 6:**
Name both variables by selecting the top box in the column and entering the name.  	Once you've named both variables, hit the menu button on the keypad.  	Look for the option named *Statistics* and click on it. 
Step 7:	**Step 8:**	**Step 9:**
Then, click on the option named *Stat Calculation*.  	Select the option *Linear Regression (mx+b)*.  	With the new menu, click on the arrow for the *x* list and select your *x* variable. 

Step 10:	**Step 11:**	**Step 12:**
Then do the same thing for the *y* list, clicking the arrow and selecting your *y* variable. 	Hit *OK* and then two more columns should have appeared. 	Scroll down until you find a box on the third column named *r* which is your correlation coefficient. 

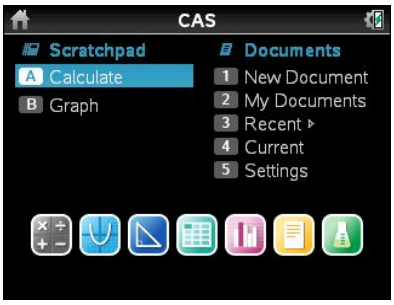
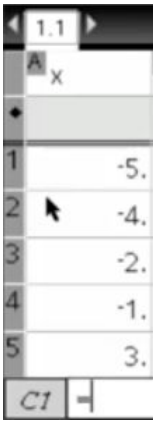
Finding Exponential Regression

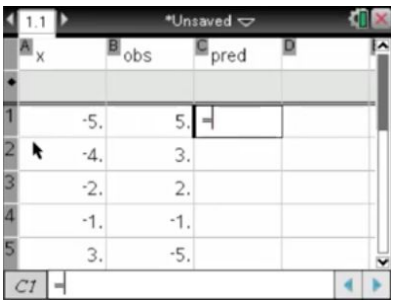
Step 1:	Step 2:	Step 3:
Press ctrl and then doc Press option 4. Add lists and spreadsheet  	Enter in x data values for one column and label. On the column next to it, enter in your y values for your data and label.  	Press ctrl and then doc to make a second document Press option 5. Data and Statistics On the bottom, where it says click to add variable, press that and click on your label for your x values. Do the same for the y values on the side
Step 4:	**Step 5:**	**Step 6:**
After your exponential graph is shown, press menu Press 4. Analyze Press 6. Regression  	Press 8. Show exponential  	On the graph drawn, the exponential regression should be labeled 

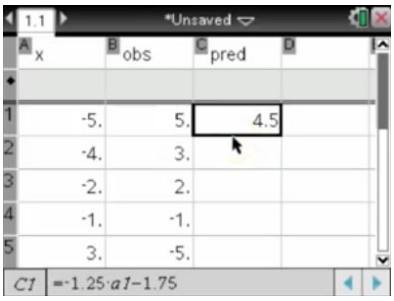
Finding Quadratic Regression

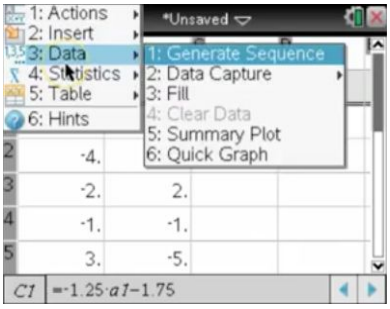
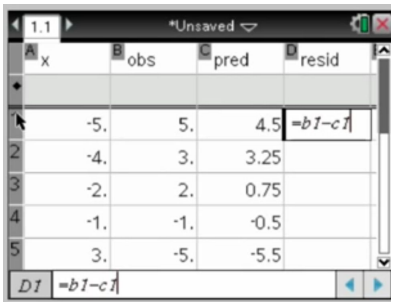
Step 1:	Step 2:	Step 3:	Step 4:
Create new list and spreadsheet	Punch in your numbers and label the x and y axis 	Click **control** then **doc** to add calculator 	Click **menu** then go to Statistics 
Step 5	**Step 6:**	**Step 7:**	
Hit **stat calculations,** then **quadratic regression** 	Put in your x's and y's 	You are now happy and have learned how to find quadratic regression in your TI Nspire. 	

Making a Residual Plot

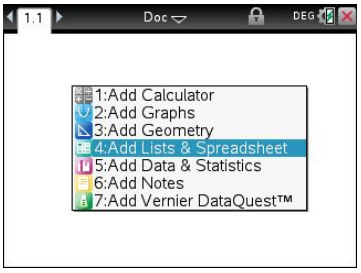
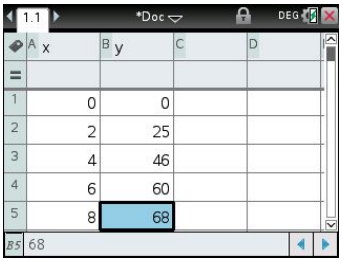
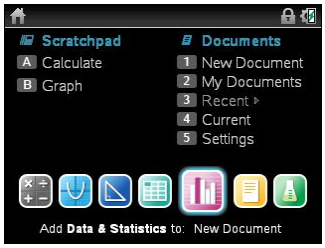
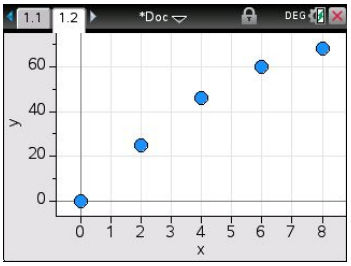
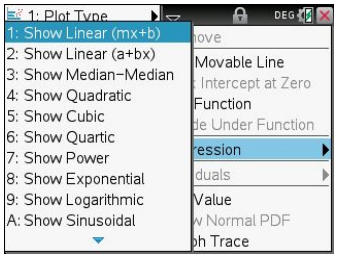
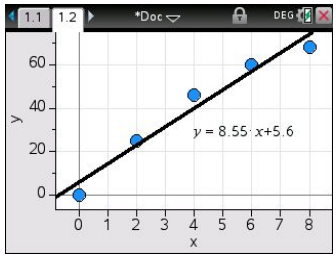
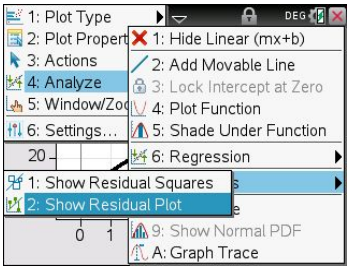
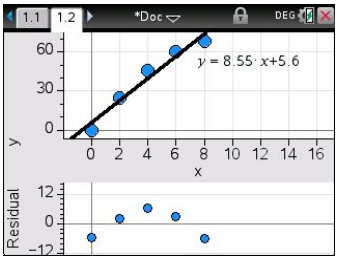
Step 1:	Step 2:	Step 3:
Select *New Document* on the home screen. 	Select *Add Lists and Spreadsheet.*	Press where *A* is and type in your x variable name.
Step 4:	**Step 5:**	**Step 6:**
Enter all of your x variable values into the x variable column. 	Do the same for the observed values in the next column. 	Go to the next column and label it for your predicted column
Step 7:	**Step 8:**	**Step 9:**
Then type in the linear regression equation for your predicted values. Make sure to type an equal sign in front of the equation.	Additionally, instead of typing in your variable in the equation, type in **a1** for column one (x values) and if needed **b1** for the second column (y values)	Once you type in this equation press **enter**



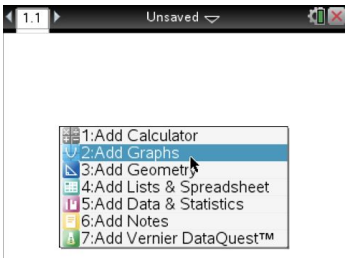
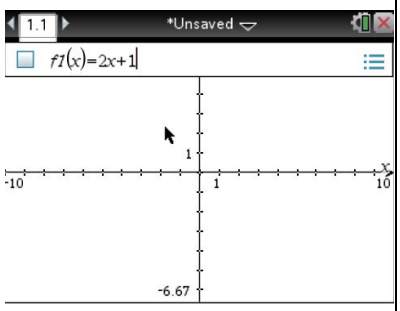
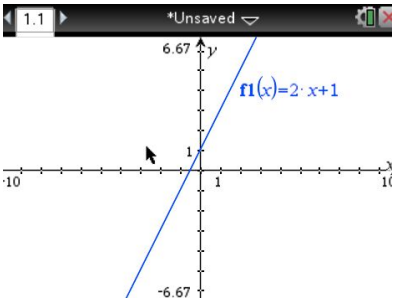
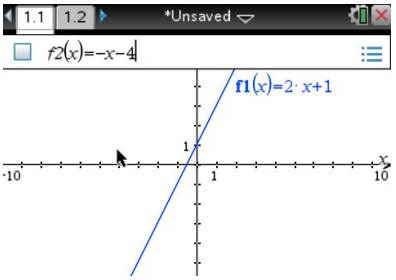
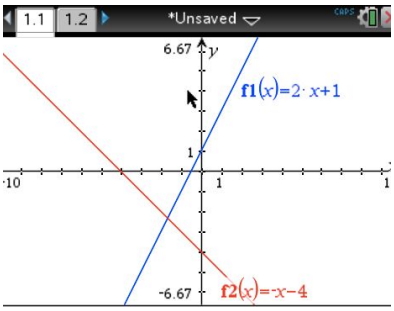
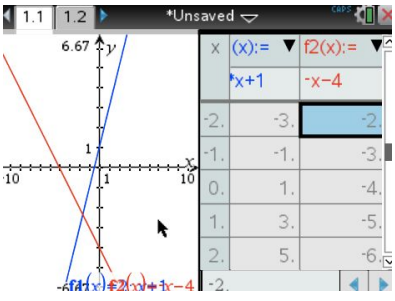


Step 10:	**Step 11:**	**Step 12:**
Select **menu, data, then fill** 	Select the next column (column D) and label it to be your residual column. 	Type in an equal sign.
Step 13:	**Step 14:**	**Step 15**
Then type **b1-c1 and hit enter** 	Repeat steps 10 and 11	Now you should have all your residual values

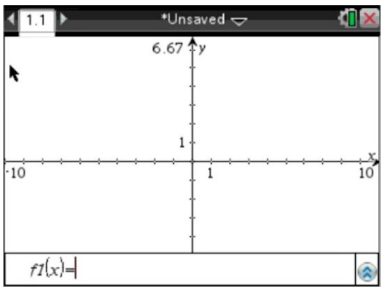
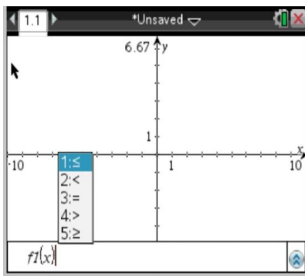
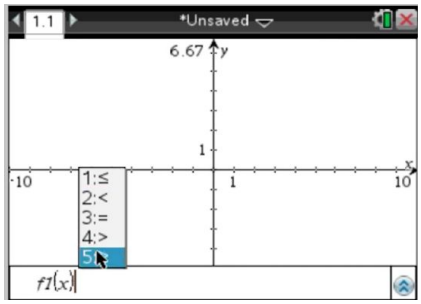
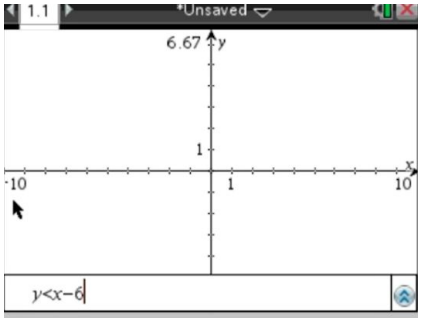
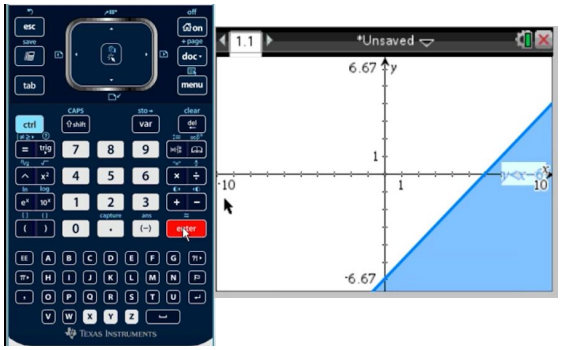
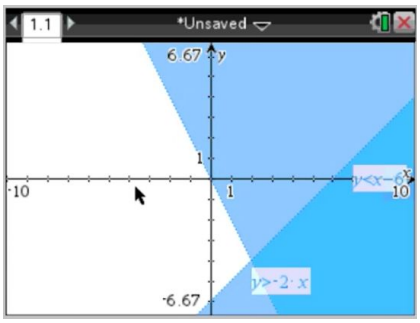
Graphing a Residual Plot

Step 1:	**Step 2:**	**Step 3:**
Open a new document, **4: Add Lists & Spreadsheets**	Insert your values and label your axes.	Press **Home**, **Add Data & Statistics** to New Document
Step 4: 	**Step 5:** 	**Step 6:** 
Set the correct x and y values 	Press **Menu**, click **4: Analyze**, then **6: Regression**, then **1: Show Linear**  	Press **Menu**, **4: Analyze, 7: Residuals, 2: Show Residual Plot**  

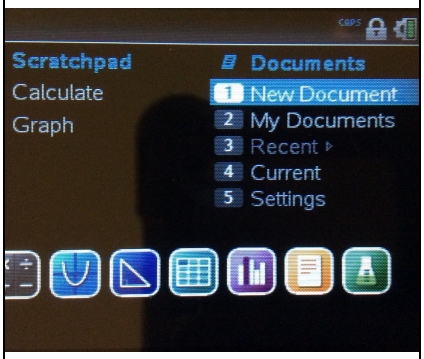
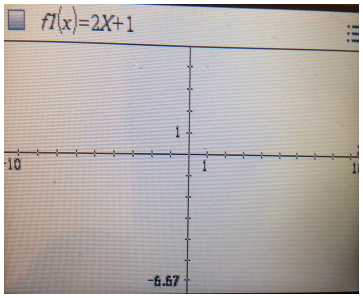
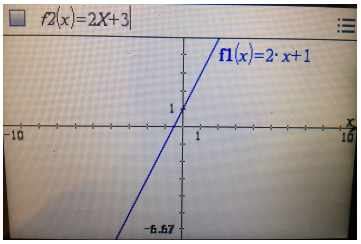
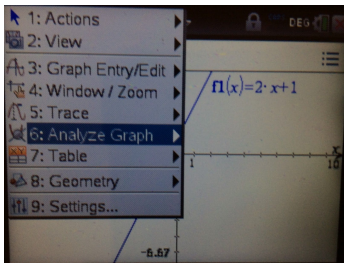
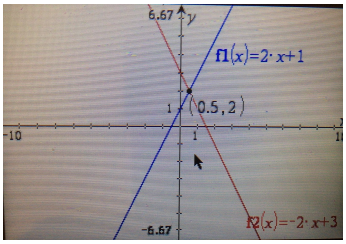
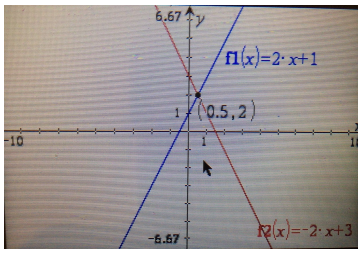
Graph Systems of Equation

Step 1:	**Step 2:**	**Step 3:**
Open a new document and click **2:Add Graphs** 	Type in your first equation.  (Ex. y=2x+1). Press enter. 	Click **tab** on the calculator to graph another equation. Type in your second equation.(Example: y=-x-4) 
Step 4:	**Step 5:**	
Press enter to graph the line. 	You can use a table to find the solution by pressing **ctrl** then **t.** This gives you a table of values. 	

Graph Systems of Inequalities

Step 1:	**Step 2:**
Open a new document. 	Delete the equal sign next to f1(x). 
Step 3:	**Step 4:**
Select the desired sign from the drop down menu. 	Write your equation in the bar. 
Step 5:	**Step 6:**
Click enter, the inequality should graph. 	Press tab to enter another equation and repeat the following steps. 

Finding Points of Intersection

Step 1:	Step 2:	Step 3:
To start this lesson, click on new document so that you can graph the functions that you would like to graph. 	Put your first function in and then press enter. 	Press tab to graph your second function, put that function in, and then press enter. 
Step 4:	**Step 5:**	**Step 6:**
Press on menu, then click on analyze graph, and after that click on intersection. 	There is a lower bound and an upper bound. To the left of the intersection, click the mouse. Then, move the mouse to the right side of the intersection and click. 	If you click on the dot of the intersection, the points of the intersection will be given.