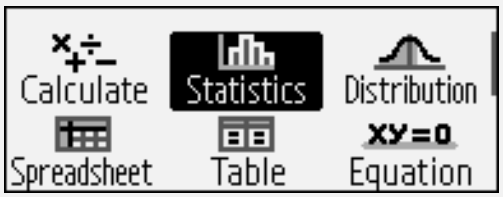
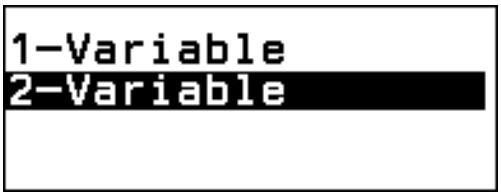
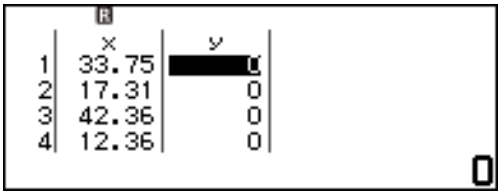
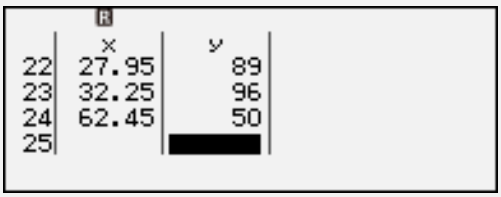
Unit 9: Lesson 5 – Plotting the Temperature

Activity 5.3: Temperature vs. Latitude

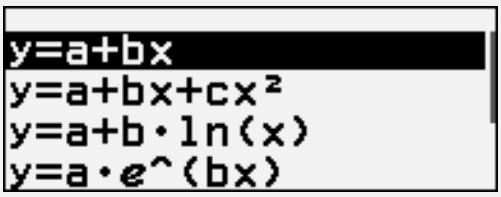
Skill: Use the Statistics app to create a scatter plot and determine the line of best fit.

Activity Summary:
This activity guides students in creating a scatter plot and drawing a line of best fit using previously gathered data from Activity 5.2. Since the data exhibits a clear linear association, a linear model can be used to model the data. Using the statistics app, a scatter plot can be created on an internet enabled device by scanning a QR code to www.ClassPad.net. As an extention into the Algebra 1 Curriculum, the regression equation of the line of best fit can be found in the Statistics app of the calculator as well to compare to the line of best fit created by hand on the graph.

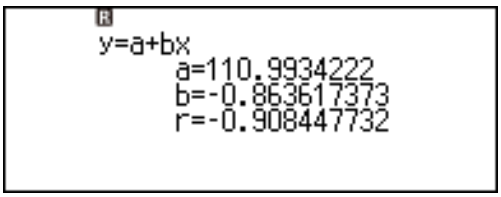
1. Turn on the calculator with the ⏻ **- On** button. Press ⌂ **– Home** and then use the arrows to highlight the **Statistics app**.	
2. Press either OK or EXE to open the **Statistics app**. Press the **down arrow**, ▼, to highlight **2-Variable**.	
3. Press either OK or EXE. From the data table in the prior activity, 5.2, enter the **latitude** data in the ***x*-column**. Press either OK or EXE to enter the value and move down to the next cell.	
4. To quickly return to the **top** of the list, press the **down arrow**, ▼. Press the **right arrow**, ▶, to begin entering the temperature values in the ***y*-column**.	
5. Press either OK or EXE to enter the value and move down to the next cell. If you want to determine the **equation of the line of best fit** with the calculator, follow Steps 6 through 9 below. If you only want to see the scatter plot of the data, skip ahead to Step 10.	

6. Press ↑, EXE to view the **statistics calculation menu**. To have the calculator determine the **line of best fit**, press the **down arrow**, ↓, to highlight **Reg Results**. (**Reg** is short for **Regression**.)

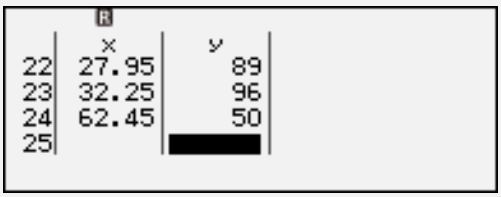
7. Press either OK, EXE, or → to view the selection of **regression models**. The first model, ***y* = a+b*x*** is the **linear model**.



8. Press either OK or EXE to view the **linear regression results**. In the model, ***y* = a+b*x***, **a** represents the ***y*-intercept**, **b** represents the **slope** of the line of best fit, and **r-value** is the **correlation coefficient**. This model can be used to predict other values.



9. Press the **back key**, ↩, to return to the data in the **statistics list**.



10. To view a **scatter plot** of the **data**, press ↑, X, to obtain the **QR Code**, and then **scan** with an internet enabled device.