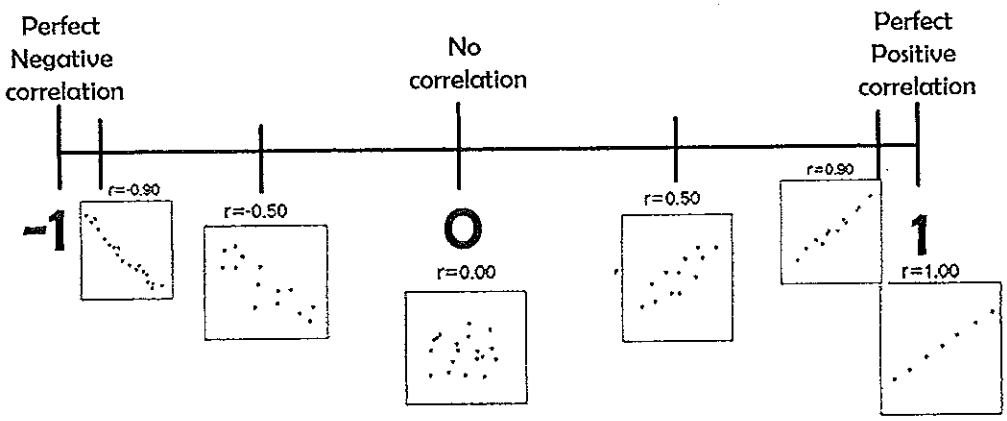
Notes continued:

Correlation Coefficient (r):

Measures the strength of the correlation (association) between the data on a scale from -1 to 1.



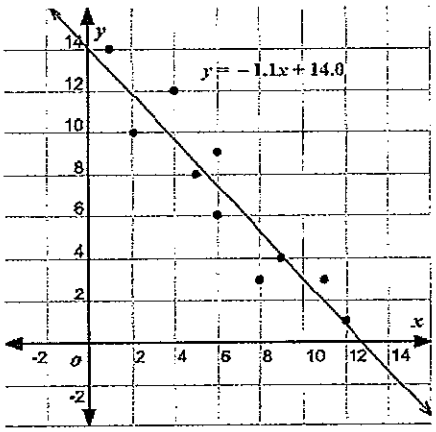
Notes continued:

Least Square Regression Line (LSRL):

Think of it as an equation that represents an extremely accurate line of best fit for your scatterplot data.

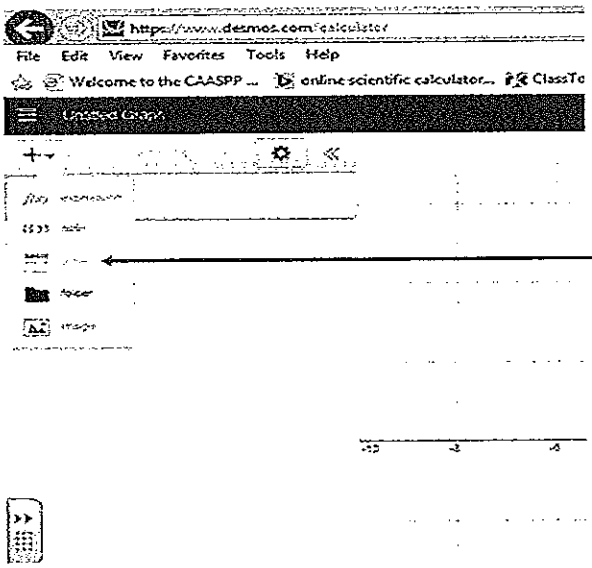
$$y=mx+b$$

slope y-intercept



Step 1

Inputting data into desmos:



select "table"

Notes continued:

Describing the association:

Strength:

Look at the correlation coefficient (r).

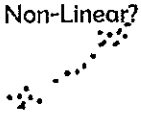
The closer (r) is to -1 or 1 the stronger the correlation.

Look at the graph. The less scattered the data from the LSRL, the stronger the correlation.

Form/Shape:

The shape of the association.

Linear? Non-Linear? Clusters?



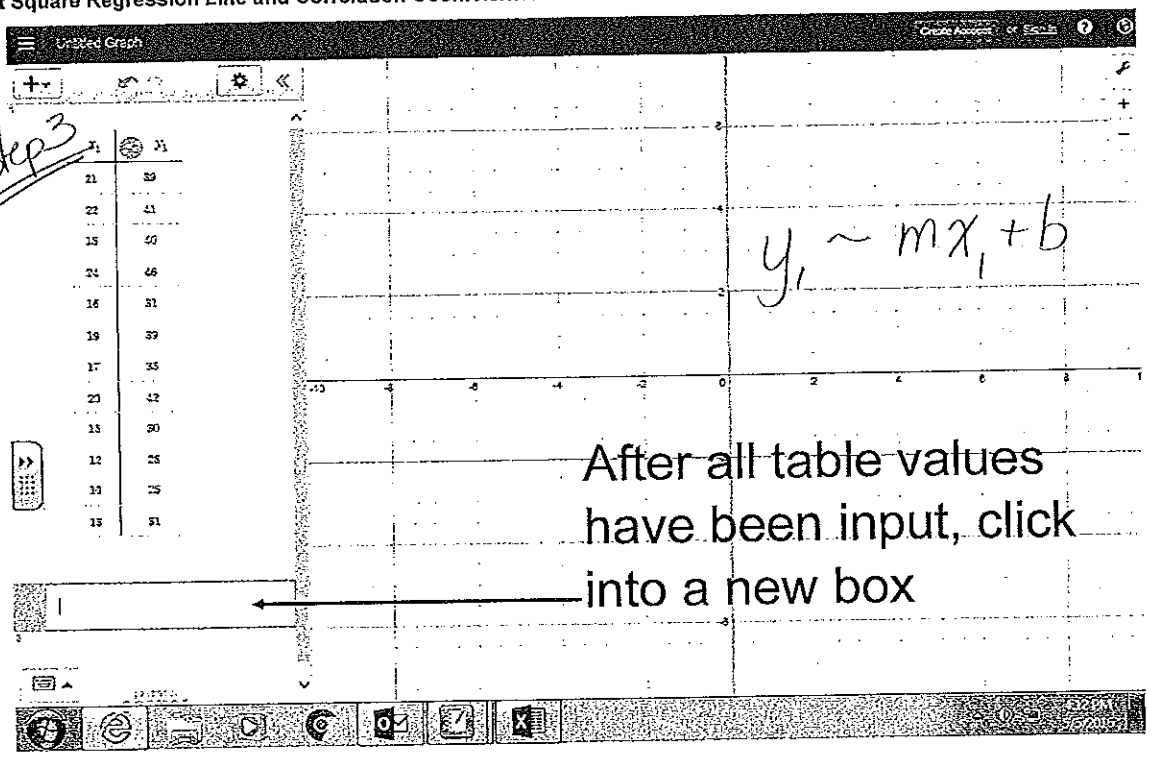
Direction:

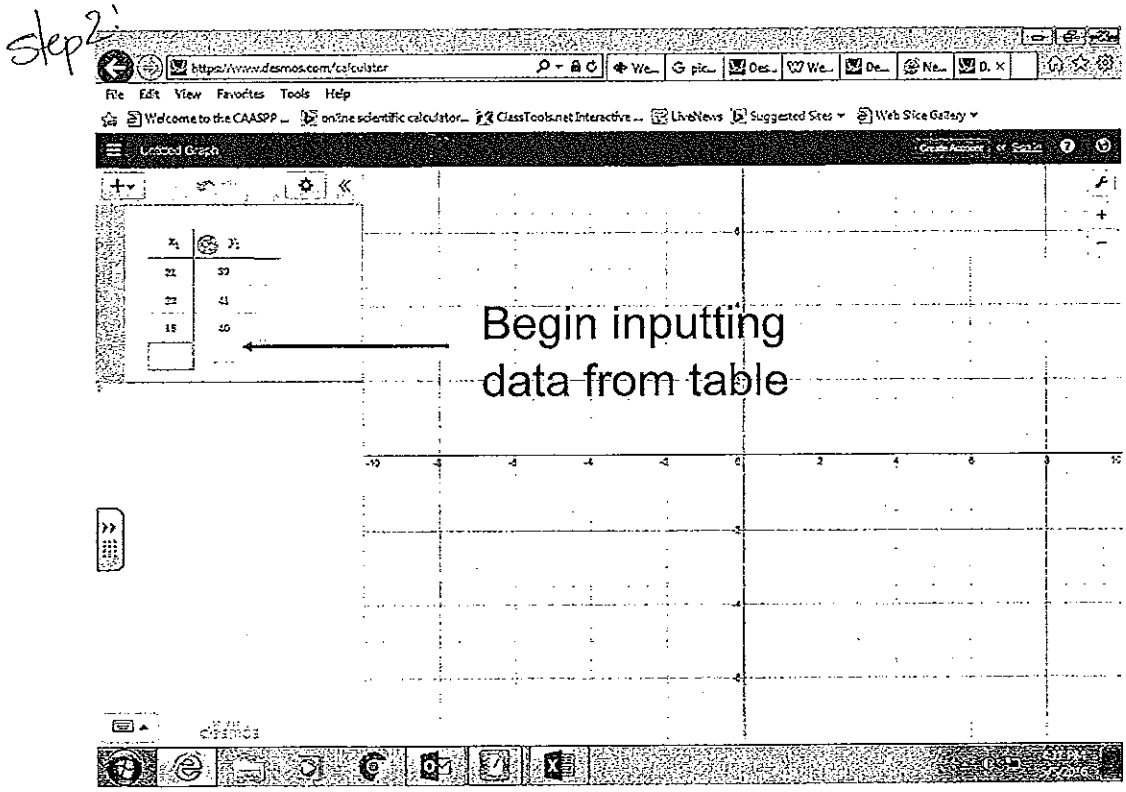
Positive correlation-as one variable increases, the other variable increases ↑↑

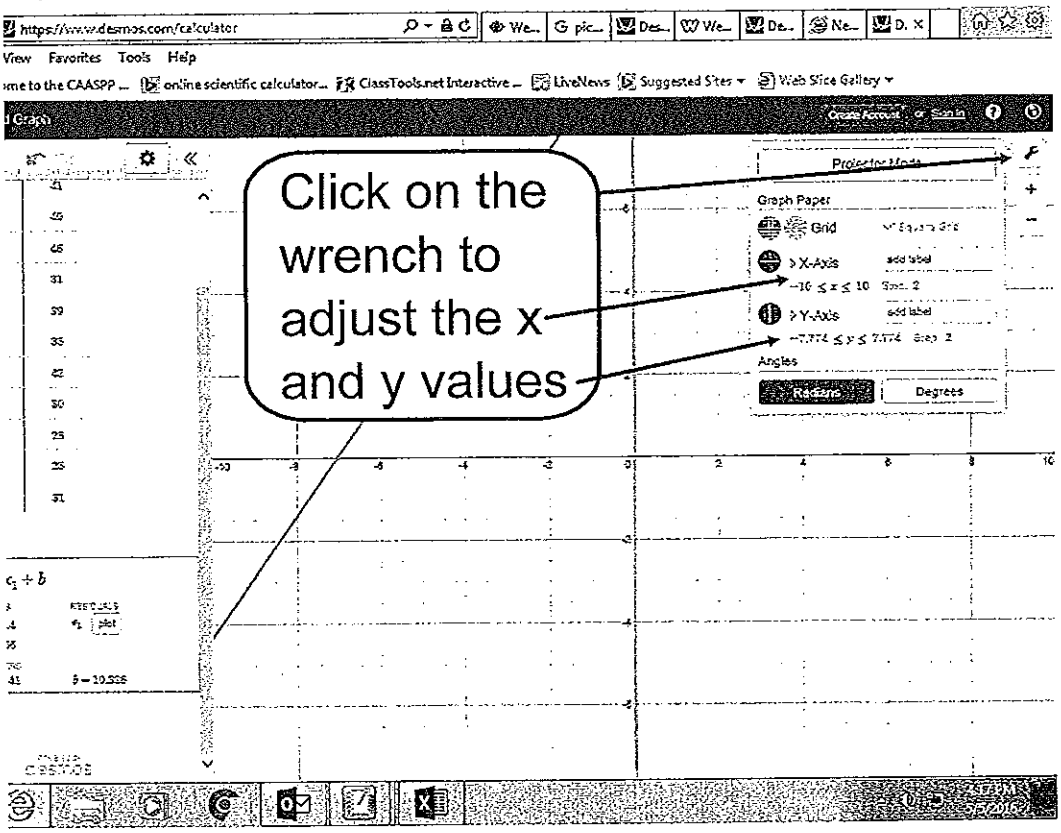
Negative correlation- as one variable increases, the other variable decreases ↑↓

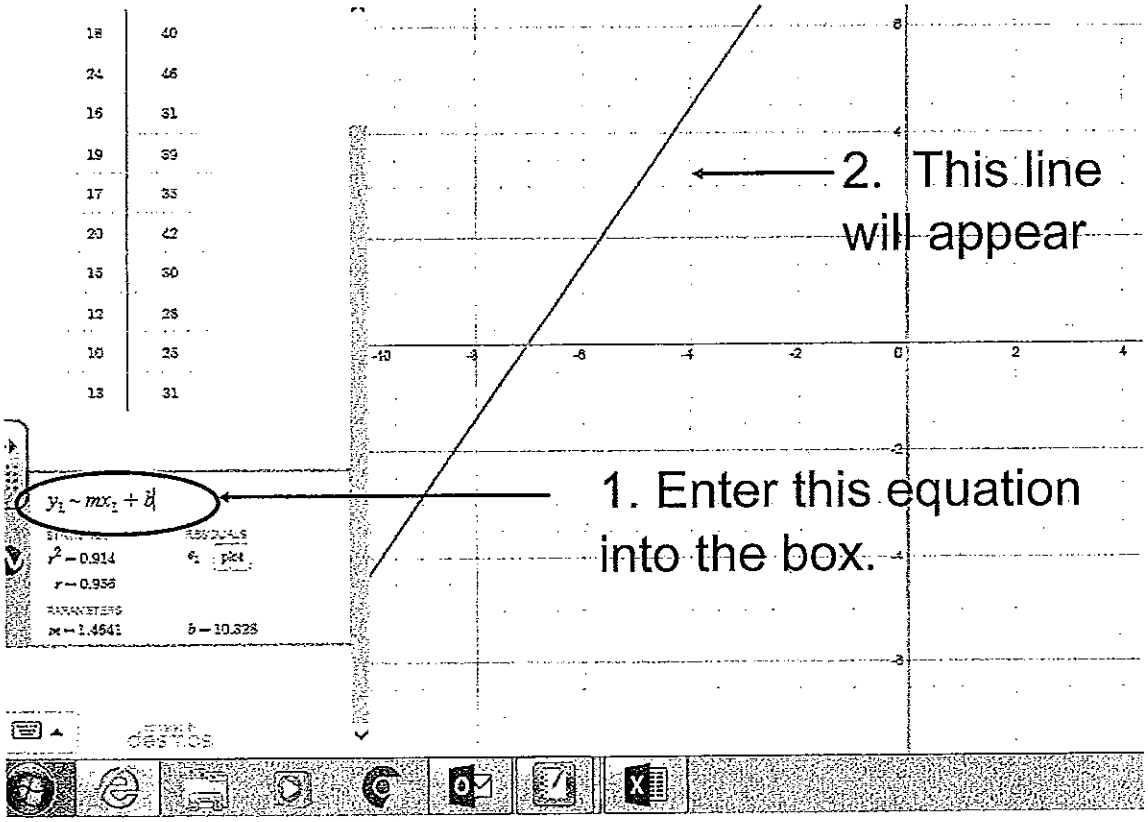
Outliers:

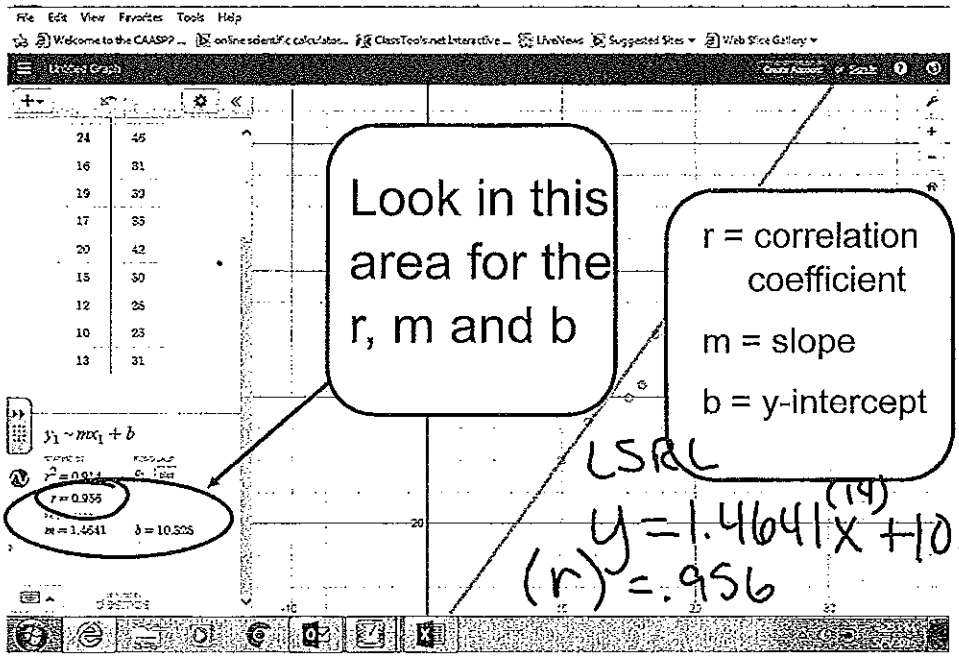
Look at the graph. Do any of the data points not follow the trend? (far away from LSRL)

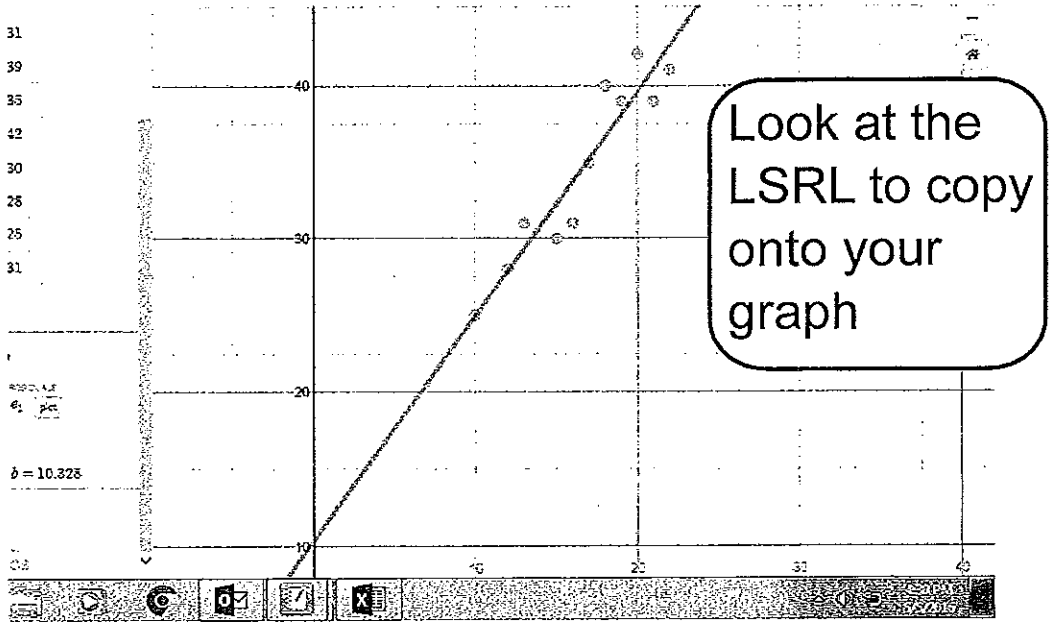

Step 3
$y_1 \sim mx_1 + b$
After all table values have been input, click into a new box


Step 2
Begin inputting data from table


Click on the wrench to adjust the x and y values
Graph Paper
Grid
X-Axis
Y-Axis
Angles
Radians
Degrees


2. This line will appear
1. Enter this equation into the box.
$y_1 \sim mx_1 + b$
$r^2 = 0.914$
$r = 0.956$
$m = 1.4641$
$b = 10.328$


Look in this area for the r, m and b
r = correlation coefficient
m = slope
b = y-intercept
LSRL
$y = 1.4641x + 10.328$
$(r) = .956$


Look at the LSRL to copy onto your graph