r Correlation Coefficient

A statistic (number) that quantifies how good of a fit an equation is for a set of data.

Set up the calculator to give r

2nd

0

Arrow key down until you find ▶DiagnosticOn

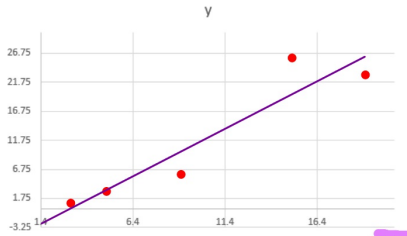
ENTER

ENTER

Now when you find a regression equation the calculator will give you the correlation coefficient too.

1. Make a scatter plot of this data, find the regression equation, and graph this equation along with the scatter plot.

X	Y
3	1
5	3
9	6
15	26
19	23



Eq: y = 1.64x - 4.97

r = 0.938

2. Make a scatter plot of this data, find the regression equation, and graph this equation along with the scatter plot.

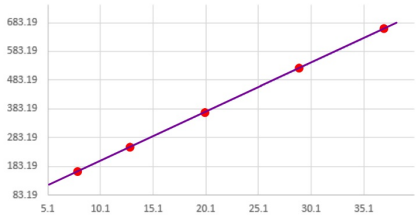
X	Y
11	15
17	1
24	-23
31	-43
43	-63

Eq: y = -2.52x + 40.90

r = -0.99

3. Make a scatter plot of this data, find the regression equation, and graph this equation along with the scatter plot.

X	Y
8	167
13	252
20	371
29	524
37	660



Eq: y = 17x + 31

r = 1

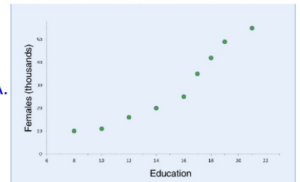
r Correlation Coefficient

r > 0 positive correlation
r = 1 Perfect positive correlation

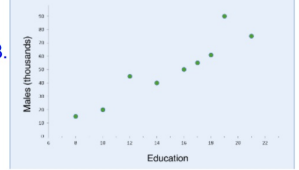
r < 0 negative correlation
r = -1 Perfect negative correlation

Which correlation is stronger?

A.

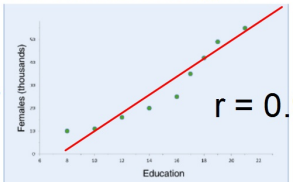


B.



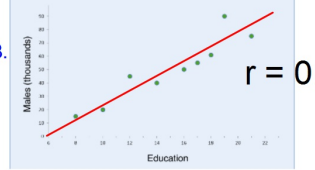
Which correlation is stronger?

A.



r = 0.952848851

B.



r = 0.926971068

This question is easier and more accurately answered using the Correlation Coefficent.

The line in graph A is a better fit because the correlation coefficient is closer to 1 than in graph B.

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