

Student Activity

Name: _____ Period: _____

Lesson

4.5a: Correlation

- For each set of data:
 - Make a scatter plot on the graph paper provided.
 - Use a graphing calculator to calculate the correlation coefficient.

Set A

2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4
1	1.5	2.5	1.9	2.8	3.2	4.5	3.7	1.7	4.8	2.7	2.3

$r =$ _____

Set B

2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4
1	1.5	2.5	1.9	2.8	3.2	4.5	3.7	4	4.8	5	4.6

$r =$ _____

Student Activity

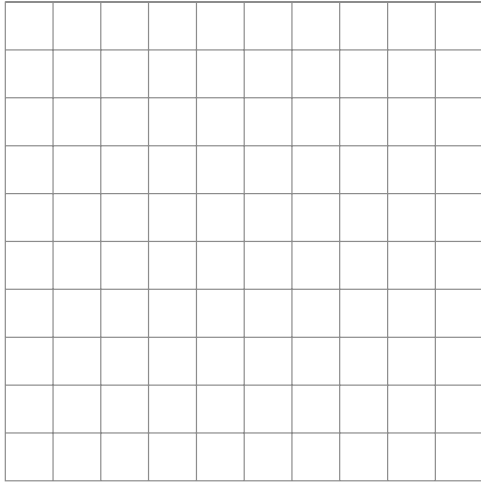
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Set C

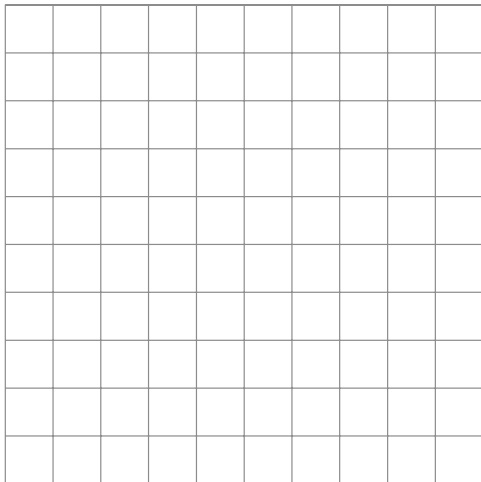
2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4
4.7	4.9	4.2	3.9	3.5	3.2	3.1	2.6	3.2	2.1	1.3	0.8



$r =$ _____

Set D

2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4
4.7	4	4.2	3.9	2.8	3.2	4.5	3.7	3.2	4.8	5	4.4



$r =$ _____

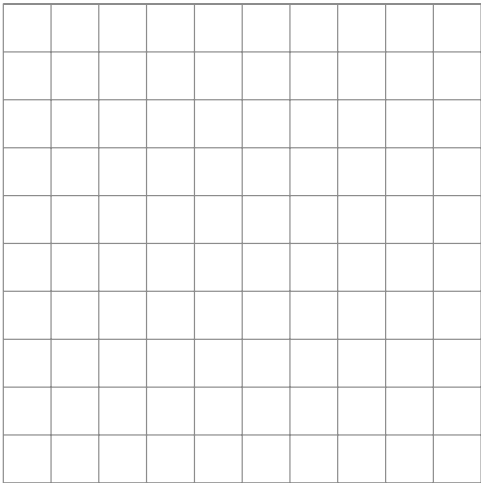
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Set E

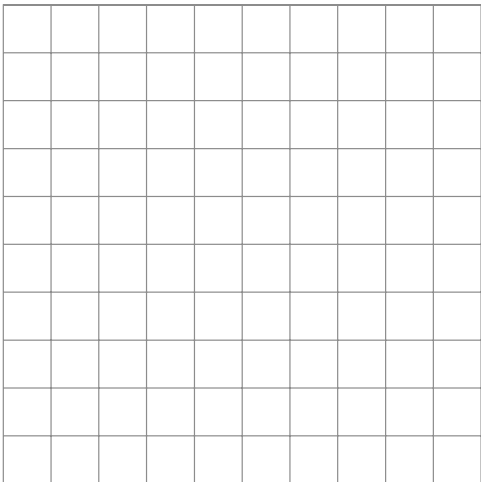
2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4
4.7	4	4.2	3.9	2.8	3.2	4.5	3.7	3.2	4.8	5	4.4



$r =$ _____

Set F

2	2.3	3.3	3.7	4.2	4.6	4.5	5
1.8	2.22	3.62	4.18	4.88	5.44	5.3	6



$r =$ _____

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Set G

2	2.3	3.3	3.7	4.2	4.6	4.5	5
4.4	4.01	2.71	2.19	1.54	1.02	1.15	0.5

$r =$ _____

- Put the data sets in order based on the correlation coefficients.
- Compare each scatter plot with its correlation coefficient. Use complete sentences to describe the patterns you see.
- Use the data in Set A as a starting point. Keeping the same x-values, modify the y-values to obtain a correlation coefficient as close to 0.75 as you can.

Record your data here.

2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4

What did you have to do with the data to get a greater correlation coefficient?

- This time, again start with the data in Set A. Keep the same x-values, but this time, modify the y-values to obtain a correlation coefficient as close to 0.25 as you can.

2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4

What did you have to do with the data to get a correlation coefficient that is closer to 0?

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6. Start with the data in Set A. Keep the same x -values, modify the y -values to obtain a correlation coefficient as close to -0.5 as you can.

2	2.3	3.3	3.7	4.2	4.6	4.5	5	5.5	5.7	6.1	6.4

What did you have to do with the data to get a correlation coefficient that is negative?

7. What aspects of the data does the correlation coefficient appear to describe?