

**BINGO! : Analyzing Scatter Plots**

**Math 8**

Have you ever wondered if there is a trend in data?

Scatter plots are used to compare two variables on a coordinate plane. They are a series of data points that may not make a perfect line, but they can show a trend in data.

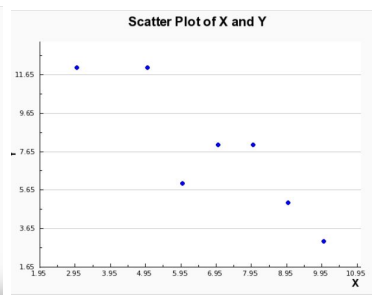
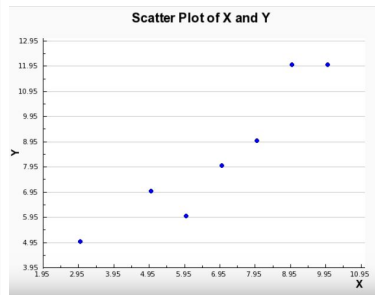
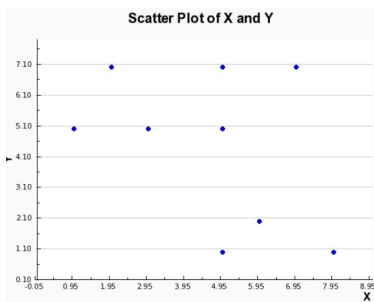
Create a list of key terms and words that help describe data and analyze scatter plots.

**List of Key Terms:**

1.) Label the graphs below with :

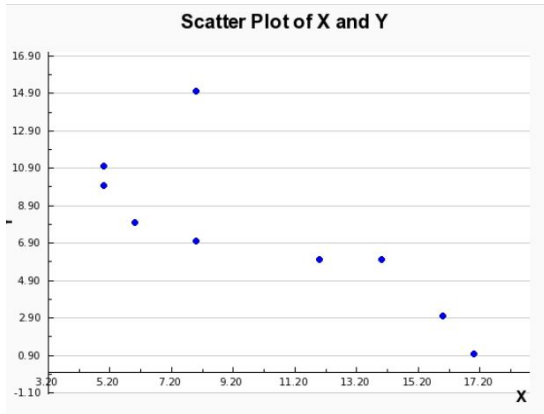
- Positive Correlation
- Negative Correlation
- No Correlation

Note to designer, create your own scatter plots similar to those below, created in [mathcracker.com](http://mathcracker.com)



2.) Describe and sketch the difference between a strong positive correlation and a weak positive correlation.

3.) Circle the outlier on the graph below **Note: create a scatter plot similar to below, maybe include more points and leave the outlier (high dot) so it is obviously off the trend**



4.) Which might be an example of a negative correlation? Why?

- A.) Car price and age of car from 1-10 years
- B.) Baby weight and age in months, from 1-10 months

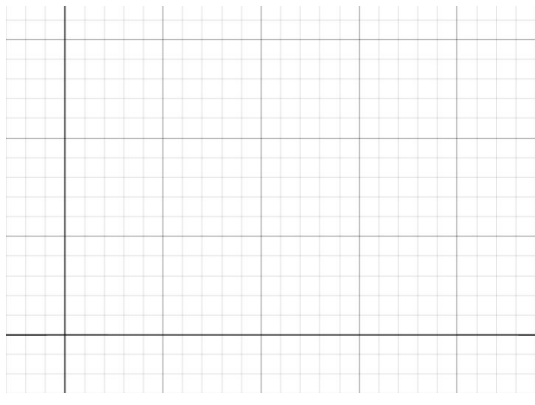
5.) Which is more likely to have no correlation? Why?

- A.) Shoe size and birthday month
- B.) Number of shots in a basketball game and number of baskets made

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6.) Create a graph of the data below and then analyze the scatter plot.  
 Be sure to label the axes and place the data points

AGE (years)	Number of times they asked for help	GRAPH
6	12	
8	12	
10	10	
12	7	
14	5	
16	3	

How would you analyze the scatter plot? Use keywords

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

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Bingo Cards - Link and lists

Bingo Instructions:

- Each bingo card has terms and keywords to help analyze scatter plots.
- When you see the graph, choose the BEST term to describe that scatterplot.
- Be careful, because there are strong correlations and weak correlations as well as 1 or 2 outliers, so look closely at the graph before you mark your board!

PDF of 8 versions of Bingo cards [here](#)

	<b>B</b>	<b>I</b>	<b>N</b>	<b>G</b>
Horizontal Trend	<b>Gap</b>	No Association	Perfect Negative Association	
<b>Free!</b>	Weak Negative Association	<b>Linear Trend</b>	Nonlinear Trend	
<b>Cluster</b>	Perfect Positive Association	<b>2 outliers</b>	Weak Positive Association	
Strong Negative Association	Strong Positive Association	<b>1 outlier</b>	<b>Line of Best fit</b>	

Image of 1 card

To make your own Bingo Cards, follow the links below:

<https://bingobaker.com/view/3319002> (This leads to the page I created cards in - we can print 8 cards free) [Bingobaker](#)

<https://bingobaker.com/play/1a78999c19bd9578> (This is a link to an example card that I made with terms, when generated, it should produce copies with unique sequences)

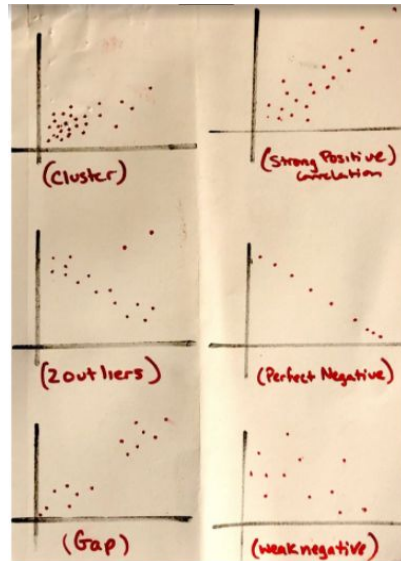
**BINGO! :**

**Analyzing Scatter Plots**

**Math 8**

Note to designer, please use the images below to create full page sized call cards of scatter plots. It is good to have duplicates or graphs that show the same trend, but create plots that match each of the following terms:

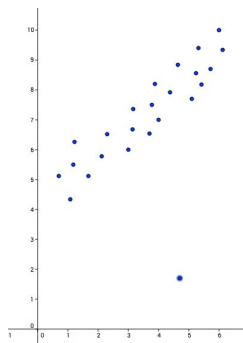
1. 1 outlier
2. linear trend
3. line of best fit
4. perfect negative
5. nonlinear trend
6. perfect positive
7. weak negative
8. horizontal trend
9. free
10. cluster
11. weak positive
12. 2 outliers
13. strong positive
14. gap
15. no association
16. strong negative



similar to graphs shown here, photos taken

by me. Do not include the label or term when showing the graph, the students will just see the graph image and need to find the term on their bingo card.

Here are examples from other sites. They are NOT LABELED FOR REUSE, but the designer can create scatter plots that look similar to those below.

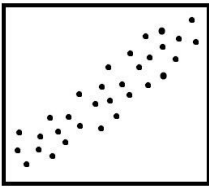


(outlier)

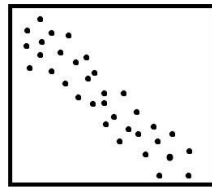
**BINGO! :**

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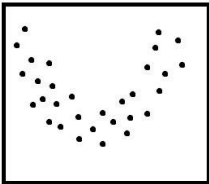
**Math 8**



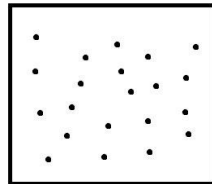
positive linear association



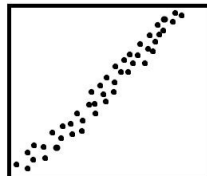
negative linear association



nonlinear association



no association

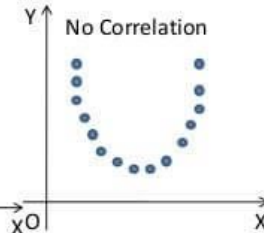
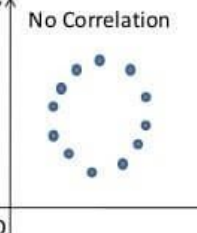
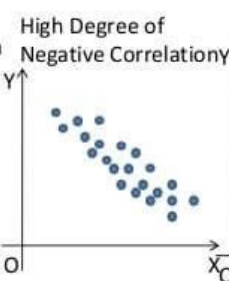
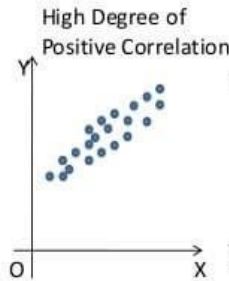
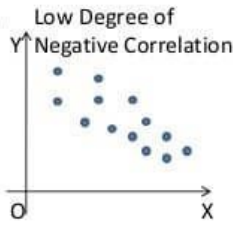
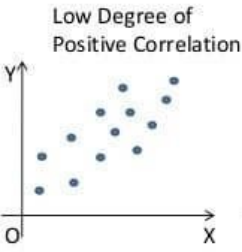
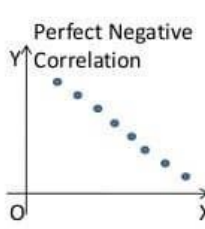
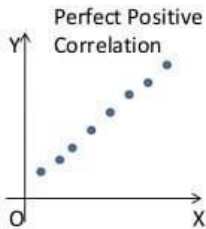


strong positive linear association

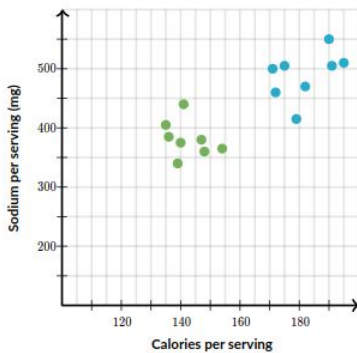


weak positive linear association

**Scatter Diagram**



Perfect, weak, strong, and no association or nonlinear



Data source: Consumer Reports, June 1986, pp. 366-367

cluster