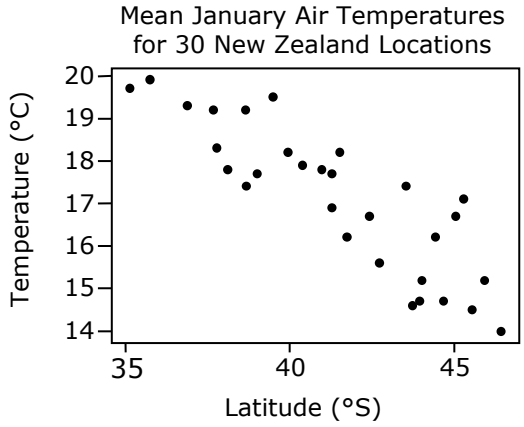
Table Number:_____ Group Name: _____

Group Members:_____ _____ _____

Scatter Plots

The **scatter plot** is the basic tool used to investigate relationships between two **numeric or quantitative** variables.

What do you see in these scatter plots? Write a description for each which includes **trend, shape,** and **strength** and explain what all these mean **in the context of the data**. When describing the trend, use the words "increasing" or "decreasing." Describe the shape as being linear or non-linear. When describing strength, make note of how close together the points are. Use one sentence to interpret the graph in context.



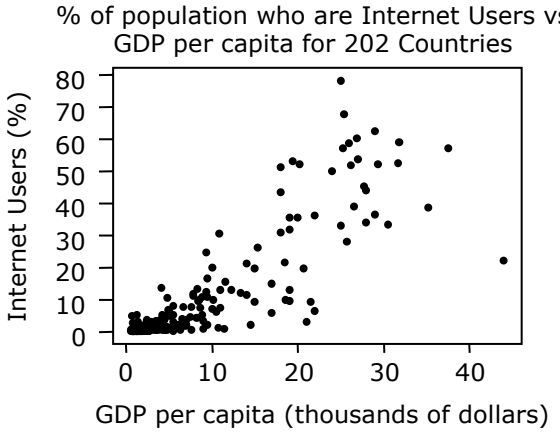
1. ***Trend:*** _____

Shape: _____

Strength:_____

Interpret:_____

_____



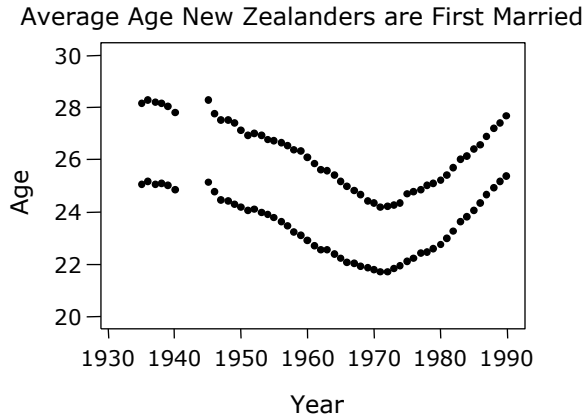
2. ***Trend:*** _____

Shape: _____

Strength:_____

Interpret:_____

_____



3. ***Trend:*** _____

Shape: _____

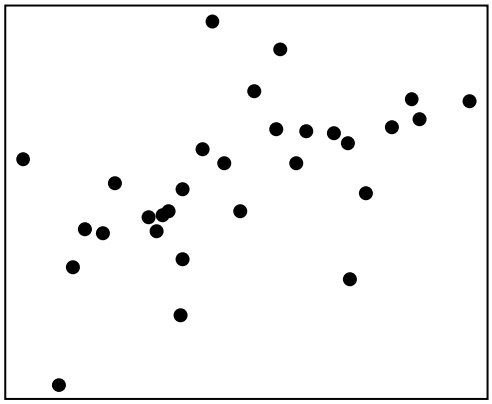
Strength:_____

Interpret:_____

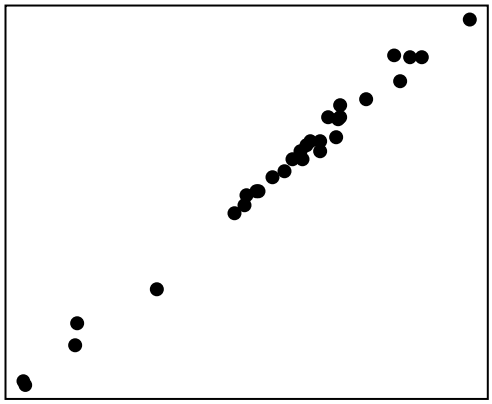
_____

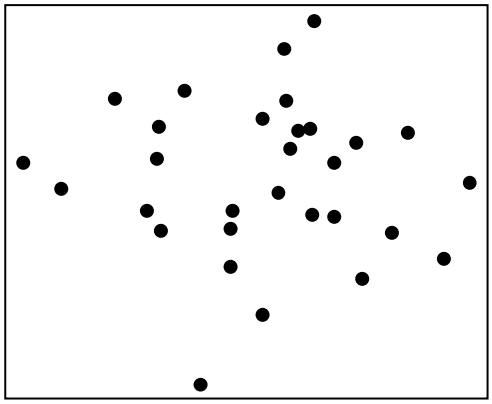
4. Rank these relationships from weakest to strongest:

A)



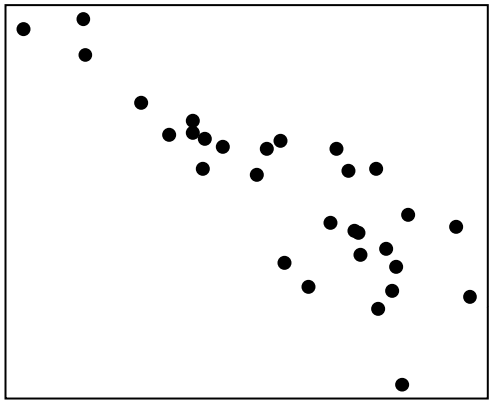
B)





C)

D)



Write your ranking, from weakest to strongest here, using the letters that represent the graphs:

_____

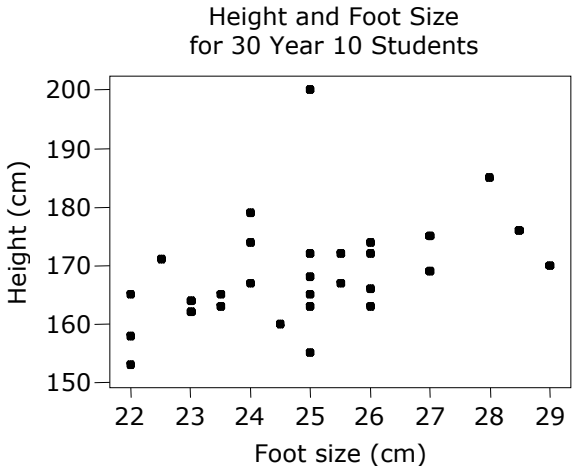
Explain your reasoning please!

_____

_____

_____

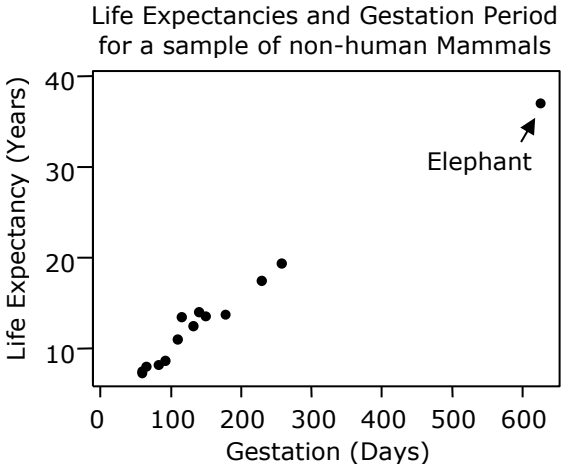
5. In the following scatterplot, circle the data point that might be an outlier and list its coordinates here: _____ . Interpret the coordinates of this point in context.
_____



What will happen to the correlation coefficient if the outlier is removed?
(Remember the correlation coefficient answers the question: "For a linear relationship, how well do the data fall on a straight line?")

☐ It will get smaller ☐ It won't change ☐ It will get bigger

6.



What will happen to the correlation coefficient if the Elephant data point is removed?
(Remember the correlation coefficient answers the question: "For a linear relationship, how well do the data fall on a straight line?")

☐ It will get smaller ☐ It won't change much ☐ It will get bigger