2F – Pearson’s Correlation Coefficient (r)

**DETERMINING THE STRENGTH OF A LINEAR ASSOCIATION**

Pearson’s correlation coefficient is calculated using the following formula:



The value of r gives a numerical measure of the degree to which the points cluster

around a straight \_\_\_\_\_\_\_\_\_.

The sign of r shows whether the linear association is \_\_\_\_\_\_\_\_\_\_\_\_ (increasing)

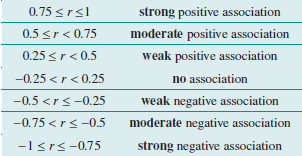
or \_\_\_\_\_\_\_\_\_\_\_\_ (decreasing).

The r value is always between \_\_\_\_\_ (perfect negative) and \_\_\_\_\_ (perfect positive).

If there is no association, the r value is close to \_\_\_\_\_\_\_\_\_.

The r value is ONLY relevant if the variables are both numeric, the association is

linear, and there are no \_\_\_\_\_\_\_\_\_\_\_\_\_ included in the data set.



*The following data shows the per capita income and per capita carbon dioxide emissions of 11 countries. Use the template in your Chapter 2 notebook to produce a scatterplot, determine the r value, and state the strength, direction and form of the association:*



r: \_\_\_\_\_\_ There is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ association

between per capita income and per capita carbon dioxide emissions.