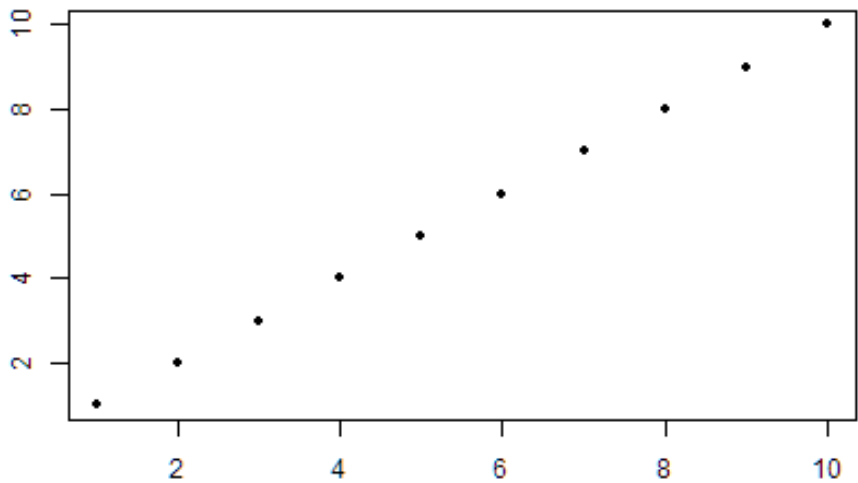# Lesson 21: Describing Bivariate Data: Scatterplots, Correlation, and Covariance

Preparation

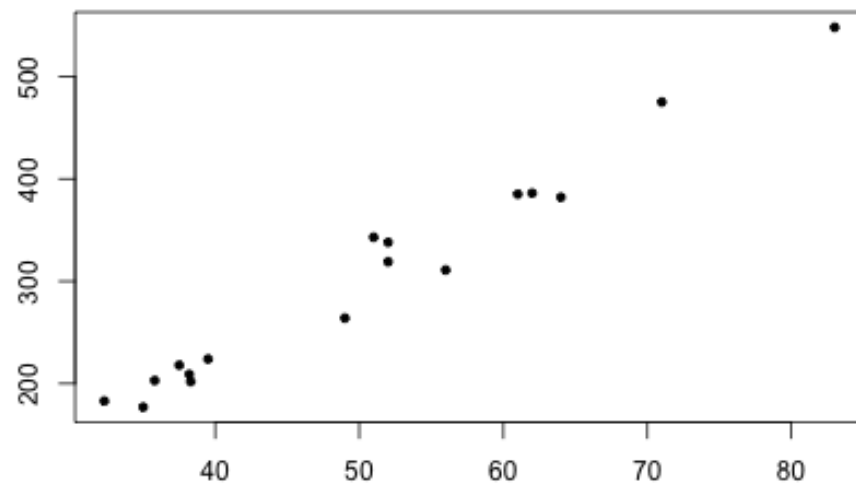## Solutions

Please note that the steps show rounded numbers, but that the final answers to the problems are calculated without rounding.

Problem	Part	Solution
1	-	The correlation coefficient is used to measure the direction and strength of the linear association between two variables. The direction can either be positive, negative, or neither, and the strength can be described as weak, moderate, or strong. It is always between -1 and 1 inclusive.
2	-	Students should have a graph sketched

3	-	$r = 0.986$
4	-	This appears to be a strong positive correlation in looking at the graph and the value of the correlation, as the dots all fit very tightly to the line.

Problem	Part	Solution

5	-	
6	-	There is a strong positive linear relationship between the head length and body length of the Gharial Crocodile.