Session Two task

Question 1:

The following are the hemoglobin levels (g/100ml) of a sample of 10 children who are receiving treatment for a certain disease.

6.7, 9.1, 10.0, 11.4, 12.4, 9.8, 8.3, 9.9, 9.1, 7.5

Compute the sample mean and median and mode and measure of dispersion.

Answer

First, ordering the data

6.7, 7.5, 8.3, 9.1, 9.1, 9.8, 9.9, 10.0, 11.4, 12.4,

1- Mean = (6.7+7.5+8.3+9.1+9.1+9.8+9.9+10.0+11.4+12.4) / 10 = 9.42

2- Median (9.1+9.8) / 2 = 9.45

3- Mode = 9.1

Question 3:

Consider the following data.

A: 3, 5, 7, 9, 11 **B: 3, 7,7 ,7 , 11**

i) Find the standard deviation of each set of data.

ii) Which of the two sets of data is more dispersed?

Answer

i) Standard deviation

A:

$S = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(x - x^{-})^2} = 3.16$

B:

$S = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(x - x^{-})^2}$ = 2.83

ii) Standard deviation of A = 2.83

Standard deviation of B = 2.53.

A is more dispersed.

Question 5:

Calculate the sample mean and median for the data for the two companies and the correlation coefficient?

Answer

Mean:

Company A: (9.3+8.8+6.8+8.7+8.5) / 5 = 8.42

Company B: (6.7+8.0+6.5+9.2+7.0) / 5 = 7.48