Chapter 2 : Maths statistics (1)

What is frequency ?

Definition : Frequency is the number of times a particular value occurs in a set of data. Usually we would record the frequency of data in a frequency table.

- ➢ **Example 1 :** Using the key : H = Hockey, B = Badminton, F = Football, each letter below indicates a student joining the sports club. There is 20 students.

    H H B F B H F F H B B B H F H H F B H B

We can construct a frequency table for the data.

Sports	Hockey	Badminton	Football
Frequency	8	7	5
Sum of frequency increasing	**8**	8 + 7 = **15**	15 + 5 = **20**

How calculate ratio or percentage ?

- ➢ **Example 1 :** Using the key : H = Hockey, B = Badminton, F = Football, each letter below indicates a student joining the sports club. There is **20** students.

Sports	Hockey	Badminton	Football
Frequency	8	7	5
Ratio	$\dfrac{8}{20}$	$\dfrac{7}{20}$	$\dfrac{5}{20}$
Percentage	$\dfrac{8}{20} \times 100 = \mathbf{40}$	$\dfrac{7}{20} \times 100 = \mathbf{35}$	$\dfrac{5}{20} \times 100 = \mathbf{25}$

How calculate a arithmetic mean ?

Definition : the arithmetic mean of a set of observations is the average. It is obtained by dividing the sum of data by the number of observations.

- ➢ **Example 2 :** the arithmetic mean (average) of the following numbers: 9, 3, 7, 3, 8, 10, and 2 is . . .

Add up all the numbers. Then divide by 7 because there are 7 different numbers.

The mean is $\dfrac{9+3+7+3+8+10+2}{7} = \dfrac{42}{7} = \mathbf{6}$

Exercise 1 : Using the key : H = Hockey, B = Badminton, F = Football, each letter below indicates a student joining the sports club. There is **20** students.

Sports	Hockey	Badminton	Football
Frequency	8	7	5

Find the arithmetic mean of this data.