

Ch. 03. Data Handling

'Class' - VII "Mathematics"

Points:

Data :- Information collected from individuals is called data.

Observation: Each numerical fact in the raw data is called an observation.

Range:

$$\text{Range} = \text{Highest observation} - \text{lowest obse.}$$

Arithmetic Mean:

$$\text{Mean} = \frac{\text{Sum of all observations}}{\text{Number of observations}}$$

Mean lies between the greatest and smallest observations.

Ex — $\frac{3.1}{p}$ — p

Q.2. Marks in a class assessment: -

4, 6, 7, 5, 3, 5, 4, 5, 2, 6, 2, 5, 1, 9, 6, 5, 8,

4, 6, 7 - At first, organise it in a tabular form →

| Marks | Tally marks | Frequency |
|-------|-------------|-----------|
| 1 | I | 1 |
| 2 | II | 2 |
| 3 | I | 1 |
| 4 | III | 3 |
| 5 | IIII | 5 |
| 6 | IIII | 4 |
| 7 | II | 2 |
| 8 | I | 1 |
| 9 | I | 1 |
| Total | | 20 |

(i) Highest mark = 9

(ii) Lowest mark = 1

(iii) Range of data = (Highest - Lowest)
 $= 9 - 1 = 8$

(iv) Arithmetic mean = $\frac{\text{Sum of observations}}{\text{No. of observation}}$

$$= \frac{100}{20}$$

$$= 5$$

Q.4. Sol. Mean = $\frac{\text{Sum of observations}}{\text{No. of observations}}$

$$= \frac{58 + 76 + 40 + 35 + 46 + 45 + 0 + 100}{8}$$
$$= \frac{400}{8} = \underline{50.}$$

Q.6. Sol. Marks obtained by 10 students:

85, 76, 90, 85, 39, 48, 56, 95, 81 & 75

(i) The highest marks obtained by a student = 95.

And the lowest mark obtained by a student = 39.

(ii) Range = The highest mark - the lowest mark

$$= \underline{95 - 39 = 56.}$$

(iii) Mean marks obtained by the group = $\frac{\text{Sum of observation}}{\text{No. of observation}}$

$$= \frac{730}{10} = 73$$

Hence, Mean mark = 73.

Q.8. Sol. (i) Range of data = The highest rainfall - the lowest rainfall.

$$= 20.5 - 0.0 = 20.5$$

$$\therefore \text{Range of data} = 20.5 \text{ mm}$$

$$(ii) \text{ Mean} = \frac{\text{Sum of data}}{\text{No. of days}}$$

$$= \frac{41.3}{7} = 5.9$$

$$\text{Mean} = 5.9$$

(iii) On 5 days rainfall is less than mean rainfall.

Q.9 Sol. Data in ascending order

128, 132, 135, 139, 141, 143, 146, 149, 150, 151.

(i) The height of the tallest girl = 151 cm.

(ii) The height of the shortest girl = 128 cm

(iii) Range of the data = 151 - 128 = 23

(iv) Mean height of girls = $\frac{1414}{10} = 141.4$ cm.

(v) 5 girls have more height than the mean height.