

Board – CBSE

Class – 7th

Topic – Data Handling 3.2

Q.1 The scores in mathematics test (out of 25) of 15 students is as follows:

19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20

Find the mode and median of this data. Are they the same?

Sol: Scores of 15 students in mathematics test are

19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20

Arranging these scores in ascending order,

5, 9, 10, 12, 15, 16, 19, 20, 20, 20, 20, 23, 24, 25, 25

The mode of a given data is that value of observation that occurs for the most number of times. The Median of a given data is the middle observation when the data is arranged in an ascending or descending order.

As there are 15 terms in the given data, therefore, the median of this data will be the 8th observation.

Hence, median = 20

Also, it can be observed that 20 occurs 4 times (i.e., the maximum number of times).

Therefore, mode of this data = 20

Yes, both median and mode are the same.

Q.2 The run scored in a cricket match by 11 players is as follows:

6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15

Find the mean, mode and median of this data. Are the three same?

Sol: The runs scored by 11 players are

6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15

Arranging these scores in an ascending order,

6, 8, 10, 10, 15, 15, 15, 50, 80, 100, 120

$$\text{Mean} = \frac{6+8+10+10+15+15+15+50+80+100+120}{11} = \frac{429}{11} = 39$$

Mode is the observation occurred the highest number of times = 15

Median is the middle observation = 15

Therefore, Mode and Median is 15.

No, the mean, median, and mode are not the same.

Q.3 The weight (in kg) of 15 students of a class are: 38, 42, 35, 37, 45, 50, 32, 43, 43, 40, 36, 38, 43, 38, 47

(i) Find the mode and median of this data.

(ii) Is there more than one mode?

Sol: Arranging the given data in ascending order, 32, 35, 36, 37, 38, 38, 38, 40, 42, 43, 43, 43, 45, 47, 50

(i) Mode is the observation that occurred the highest number of times.

Therefore, Mode = 38 and 43

(ii) Median is the middle observation = 40

Yes, there are 2 modes.

Q.4 Find the mode and median of the data: 13, 16, 12, 14, 19, 12, 14, 13, 14

Sol: Arranging the given data in ascending order, 12, 12, 13, 13, 14, 14, 14, 16, 19

Mode is the observation occurred the highest number of times = 14

Median is the middle observation = 14

Q.5 Tell whether the statement is true or false:

(i) The mode is always one of the numbers in the data.

(ii) The mean is one of the numbers in the data.

(iii) The median is always one of the numbers in a data.

(iv) The data 6, 4, 3, 8, 9, 12, 13, 9 has mean of 9.

Sol: (i) True (ii) False (iii) True (iv) False