

CHAPTER -3 Data Handling | CLASS 7TH MATHS

IMPORTANT QUESTIONS

Important Questions

Question 1.

Find the range of the following data:

21, 16, 30, 15, 16, 18, 10, 24, 26, 20

Solution:

Greatest number 30

Smallest number = 10

Range = $30 - 10 = 20$

Question 2.

Find the mode of the following data:

24, 26, 23, 26, 22, 25, 26, 28

Solution:

Arranging the given data with the same value together, we get

22, 23, 24, 25, 26, 26, 26, 28

Here, 26 occurs the greatest number of times i.e. 3 times

Thus, the required mode = 26.

Question 3.

Find the average of the numbers 8, 13, 15.

Solution:

$$\text{Average} = \frac{\text{Sum of the numbers}}{\text{Total number of terms}}$$

$$= \frac{8 + 13 + 15}{3} = \frac{36}{3} = 12$$

Thus, the required average = 12.

Question 4.

Find the median of the following data:

8, 6, 10, 12, 14

Solution:

Let us arrange the given data in increasing order,

6, 8, 10, 12, 14

$n = 5$ (odd)

Median = $(\frac{n+1}{2})$ th term = 3rd term = 10

Thus, the required median = 10.

Question 5.

Find the median of the following data:

20, 14, 6, 25, 18, 13, 19, 10, 9, 12

Solution:

Arranging the given data in increasing order, we get

6, 9, 10, 12, 13, 14, 18, 19, 20, 25

$n = 10$ (even)

$$\begin{aligned}\text{Median} &= \frac{\frac{n}{2}^{\text{th}} \text{ term} + \left(\frac{n}{2} + 1\right)^{\text{th}} \text{ term}}{2} \\ &= \frac{\frac{10}{2}^{\text{th}} \text{ term} + \left(\frac{10}{2} + 1\right)^{\text{th}} \text{ term}}{2} \\ &= \frac{5^{\text{th}} \text{ term} + 6^{\text{th}} \text{ term}}{2} \\ &= \frac{13 + 14}{2} = \frac{27}{2} = 13.5\end{aligned}$$

Thus, the required median = 13.5

Question 6.

A fair die is rolled, find the probability of getting a prime number.

Solution:

Number on a die = 1, 2, 3, 4, 5, 6

$n(S) = 6$

Prime numbers = 2, 3, 5

$n(E) = 3$

Probability = $\frac{n(E)}{n(S)} = \frac{3}{6} = \frac{1}{2}$

Thus the required probability = $\frac{1}{2}$.

Question 7.

If the averages of the given data 6, 10, 12, x, 16 is 14, find the value of x.

Solution:

Average of the given numbers

$$\begin{aligned}&= \frac{6 + 10 + 12 + x + 16}{5} = \frac{44 + x}{5} \\ \frac{44 + x}{5} &= 14 \\ \Rightarrow 44 + x &= 14 \times 5 \\ \Rightarrow 44 + x &= 70 \\ \therefore x &= 70 - 44 = 26\end{aligned}$$

Thus, the required value of x is 26.

Question 8.

Find the mean of the first 5 multiples of 3.

Solution:

Five multiples of 3 are 3, 6, 9, 12 and 15

$$\text{Mean} = \frac{3 + 6 + 9 + 12 + 15}{5} = \frac{45}{5} = 9$$

Hence, the required mean = 9.