Tender Heart High School, Sec-33B, Chandigarh

Class - VI
Subject - Mathematics

Date - 20.01.2025
Teacher - Ms. Sushma.

Chapter - 26
Mean and Median.

Mean :-

Mean always lies between the greatest and smallest observation of the data.

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

Median :- Median refers to the value which lies in the middle of the data with half of the obs. above it and the other half below it.

If the data has an odd no. of items, then the median is the middle no.

If the data has an even no. of items, then the median is mean of two middle numbers.

Exercise 26A

Q1. Find the mean of 11, 13, 17, 19, 23

Soln:- $\text{Mean} = \frac{\text{Sum of obs}}{\text{No. of obs}} = \frac{11+13+17+19+23}{5}$

$= \frac{83}{5} = 16.6.$

Q2 i) Find the mean of first eight natural numbers

Soln:- The first 8 natural no's = 1, 2, 3, 4, 5, 6, 7, 8.

$\text{Mean} = \frac{\text{Sum of obs}}{\text{No. of obs}} = \frac{1+2+3+4+5+6+7+8}{8}$

$= \frac{36}{8} = 4.5$

(ii) Find the mean of prime no's b/w 20 and 40

Soln:- Prime No. b/w 20 and 40 are → 23, 29, 31, 37

$\text{Mean} = \frac{\text{Sum of obs}}{\text{No. of obs}} = \frac{23+29+31+37}{4} = \frac{120}{4}$

$= 30$

Q3. The mean of 9, 14, x, 16, 7 and 18 is 11.5. Find the value of x.

Soln:- The given mean = 11.5

$\text{Mean} = \frac{\text{Sum of obs}}{\text{No. of obs}}$

$$11.5 = \frac{9 + 14 + x + 16 + 7 + 18}{6}$$

$$11.5 = \frac{64 + x}{6}$$

$$11.5 \times 6 = 64 + x$$

$$69.0 = 64 + x$$

$$x = 69 - 64$$

$$\boxed{x = 5}$$

Ex 26 B

Q1. Find the median of the following data:-

(i) 7, 11, 20, 6, 3, 16, 15, 21, 12.

Soln:- Arranging the given series in ascending order

3, 6, 7, 11, 12, 15, 16, 20, 23

No. of terms $(n) = 9$

Middle term $= \frac{1}{2}(n+1)^{th}$ term

$= \frac{1}{2}(9+1)^{th}$ term

$= \frac{1}{2} \times (10)^{th}$ term $= 5^{th}$ term

$= 12$

So, median is 12.

(ii) 5.6, 7.2, 1.8, 4.3, 9.1, 2.6, 3.4

Arranging the given series in ascending order-

1.8, 2.6, 3.4, 4.3, 5.6, 7.2, 9.1

No. of terms = 7.

Middle term = $\frac{1}{2}(n+1)^{th}$ term

$= \frac{1}{2}(7+1)^{th}$ term

$= \frac{1}{2}(8)^{th}$ term

$= 4^{th}$ term

So, Median = 4.3.

(iii) 122, 127, 109, 118, 125, 108

Arranging the given series in ascending order-

108, 118, 122, 125, 127.

No. of terms (n) = 6

So, Median = Mean of 3rd and 4th terms

$= \frac{1}{2}(118+122)$

$= \frac{1}{2} \times 240 = 120$

Median = 120

Q2. The marks of 7 students in an examination are :- 25, 19, 17, 24, 31, 26, 40. Find the median score.

Soln:- Arranging in ascending order, we get.

17, 19, 24, 25, 26, 31, 40

No. of terms = 7 which is odd

Middle term = $\frac{1}{2}(7+1)^{th}$ term

$= 4^{th}$ term $= 25$

Median = 25.

Q:- The heights (in cm) of 9 girls are :-

144.2, 148.5, 143.7, 149.6, 150, 146.5, 145, 147.3, 152.1.

Find the median height.

Soln:- Arranging in ascending order :-

143.7, 144.2, 145, 146.5, 147.3, 148.5, 149.6, 150, 152.1.

No. of terms = 9

Middle term $= \frac{1}{2}(9+1)^{th}$ term

$= 5^{th}$ term

$= 147.3$ cm

So, Median 147.3 cm.