# Mean and Median

## EXERCISE 34 (A)

**Question 1.**
**Find the mean of :**
**(i) 7,10, 4 and 17**
**(ii) 12, 9, 6,11 and 17**
**(iii) 3, 1, 5, 4, 4 and 7**
**(iv) 7, 5, 0, 3, 0, 6, 0, 9, 1 and 4**
**(v) 2.1, 4.5, 5.2, 7.1 and 9.3**
**(vi) 5, 2.4, 6.2, 8.9, 4.1 and 3.4**
**Answer:**

(*i*) 7, 10, 4 and 17

$$\text{Required mean} = \frac{\text{Sum of data values}}{\text{No. of data values}}$$

$$= \frac{7+10+4+17}{4}$$

$$= \frac{38}{4} = 9{\cdot}5$$

(*ii*) Mean of 12, 9, 6, 11 and 17

$$\text{Required mean} = \frac{\text{Sum of data values}}{\text{No. of data values}}$$

$$= \frac{12+9+6+11+17}{5}$$

$$= \frac{55}{5} = 11$$

(*iii*) Mean of 3, 1, 5, 4, 4 and 7

$$\text{Required mean} = \frac{\text{Sum of data values}}{\text{No. of data values}}$$

$$= \frac{3+1+5+4+4+7}{6}$$

$$= \frac{24}{6} = 4$$

(*iv*) Mean of 7, 5, 0, 3, 0, 6, 0, 9, 1 and 4

$$\text{Required mean} = \frac{\text{Sum of data values}}{\text{No. of data values}}$$

$$= \frac{7+5+0+3+0+6+0+9+1+4}{10}$$

$$= \frac{35}{10} = 3{\cdot}5$$

(*v*) Mean of 2·1, 4·5, 5·2, 7·1 and 9·3

$$\text{Required mean} = \frac{\text{Sum of data values}}{\text{No. of data values}}$$

$$= \frac{2{\cdot}1+4{\cdot}5+5{\cdot}2+7{\cdot}1+9{\cdot}3}{5}$$

$$= \frac{28{\cdot}2}{5} = 5{\cdot}64$$

(*vi*) Mean of 5, 2·4, 6·2, 8·9, 4·1 and 3·4

$$\text{Required mean} = \frac{\text{Sum of data values}}{\text{No. of data values}}$$

$$= \frac{5+2{\cdot}4+6{\cdot}2+8{\cdot}9+4{\cdot}1+3{\cdot}4}{6}$$

$$= \frac{30}{6} = 5$$



**Question 2.**

**Find the mean of :**

**(i) first eight natural numbers**

**(ii) first six even natural numbers**

**(iii) first five odd natural numbers**

**(iv) all prime numbers upto 30**

**(v) all prime numbers between 20 and 40.**

**Answer:**

**(i)** The first eight natural numbers are 1, 2, 3, 4, 5, 6, 7, 8

∴Sum of these observations =1+2+3+4+5+6+7+8=36

and, number of their observations = 8

∴Required mean = $\frac{36}{8}$ = 4.5

**(ii)** The first six even natural numbers are 1 = 2, 4, 6, 8, 10, 12

∴Sum of these observations = 2, 4, 6, 8, 10, 12 = 42

and, number of their observations = 6
∴ Required mean = $\frac{42}{6}$ = 7

**(iii)** The first five odd natural numbers are = 1, 3, 5, 7, 9
∴Sum of these observations =1 + 3 + 5 + 7 + 9 = 25
and, number of their observations = 5
∴Required mean = $\frac{25}{5}$ = 5

**(iv)** The all prime numbers upto 30 are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29
∴Sum of these observations = 2 + 3 +5 + 7+ 11 + 13 + 17 + 19 + 23 +29 = 129
and, number of their observations = 10
∴Required mean = $\frac{129}{10}$ = 12-9

**(v)** All prime numbers between 20 and 40 are 23, 29, 31, 37
Sum of these observations = 23+29 + 31 + 37 = 120 .
and, number of their observations = 4
120
∴ Required mean = $\frac{120}{4}$ = 30



**Question 3.**
**Height (in cm) of 7 boys of a locality are 144 cm, 155 cm, 168 cm, 163 cm, 167 cm, 151 cm and 158 cm. Find their mean height.**
**Answer:**
Sum of the values = Sum of heights
= 144 cm + 155 cm + 168 cm + 163 cm + 167 cm + 151 cm + 158 cm = 1106 cm and
Number of values = Number of boys = 7

$$\therefore \text{ The mean} = \frac{\text{Sum of heights}}{\text{Number of boys}} = \frac{1106}{7} = 158 \text{ cm}$$

**Question 4.**
**Find the mean of 35, 44, 31, 57, 38, 29, 26,36, 41 and 43.**
**Answer:**
Sum of the values = 35 + 44 + 31 + 57 + 38 + 29 + 26 + 36 + 41 + 43 = 380
and Number of values = 10

$$\therefore \text{ Mean} = \frac{\text{Sum of the values}}{\text{Number of the value}} = \frac{380}{10} = 38$$

**Question 5.**
**The mean of 18, 28, x, 32, 14 and 36 is 23. Find the value of x. Sum of data**

**Answer:**

$$\because \text{Mean} = \frac{\text{Sum of data}}{\text{Number of data}}$$

$$\Rightarrow 23 = \frac{18+28+x+32+14+36}{6}$$

$$\Rightarrow 23 = \frac{128+x}{6}$$

$$\Rightarrow 23 \times 6 = 128 + x$$

$$\Rightarrow 138 = 128 + x$$

$$\Rightarrow 138 - 128 = x$$

$$\therefore x = 10$$

**Question 6.**

**If the mean of x, x + 2, x + 4, x + 6 and x + 8 is 13, find the value of x. Sum of data**

**Answer:**

$$\because \text{Mean} = \frac{\text{Sum of data}}{\text{Number of data}}$$

$$\Rightarrow 13 = \frac{x+(x+2)+(x+4)+(x+6)+(x+8)}{5}$$

$$\Rightarrow 13 = \frac{5x+20}{5}$$

$$\Rightarrow 13 \times 5 = 5x + 20$$

$$\Rightarrow 65 - 20 = 5x$$

$$\Rightarrow 45 = 5x$$

$$\Rightarrow x = \frac{45}{5}$$

$$\therefore x = 9$$