

Question 1.

Find the mean of the following data:

(i) 40, 30, 30, 0, 26, 60

(ii) 3, 5, 7, 9, 11, 13, 15

Solution:

(i) Mean of 40, 30, 30, 0, 26, 60

No. of data (n) = 6

$$\therefore \text{Mean} = \frac{40 + 30 + 30 + 0 + 26 + 60}{6} = \frac{186}{6} = 31$$

(ii) Mean of 3, 5, 7, 9, 11, 13, 15

No. of data = 7

$$\therefore \text{Mean} = \frac{3 + 5 + 7 + 9 + 11 + 13 + 15}{7} = \frac{63}{7} = 9$$

Question 2.

Find the mean of the first five whole numbers.

Solution:

Solution:

First 5 whole numbers are 0, 1, 2, 3, 4

$$\therefore \text{Mean} = \frac{0+1+2+3+4}{5} = \frac{10}{5} = 2$$

Question 3.

A batsman scored the following number of runs in six innings:

36, 35, 50, 46, 60, 55

Calculate the mean runs scored by him in an inning.

Solution:

In six innings, run scored was 36, 35, 50, 46, 60, 55

$$\therefore \text{Mean} = \frac{36 + 35 + 50 + 46 + 60 + 55}{6} = \frac{282}{6} = 47$$

Question 4.

The enrolment in a school for six consecutive years was as follows:

1555, 1670, 1750, 2013, 2540, 2825

Find the mean enrolment of the school for this period.

Solution:

Enrolment for 6 consecutive years is 1555, 1670, 1750, 2013, 2540, 2825

$$\begin{aligned}\therefore \text{Mean} &= \frac{1555 + 1670 + 1750 + 2013 + 2540 + 2825}{6} \\ &= \frac{12353}{6} = 2058.83 = 2059\end{aligned}$$

Question 5.

The marks (out of 100) obtained by a group of students in a science test are:

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

Find the:

- (i) highest and lowest marks obtained by the students.
- (ii) range of the marks obtained.
- (iii) mean marks obtained by the students.

Solution:

Marks obtained by a group of students in science test

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

(i) Highest marks obtained = 95

Lowest marks = 39

(ii) Range of marks = $95 - 39 = 56$

(iii) Mean marks

$$= \frac{85 + 76 + 90 + 85 + 39 + 48 + 56 + 95 + 81 + 75}{10}$$

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

Question 6.

The heights of 10 girls were measured in cm and the results are as follows:

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

(i) What is the height of the tallest girl?

(ii) What is the height of the shortest girl?

(iii) What is the mean height of the girls?

(iv) How many girls have heights more than the mean height?

Solution:

Heights of 10 girls (in cm)

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

(i) Height of the tallest girls is 151 cm.

(ii) Height of the shortest girls = 128 cm.

$$\begin{aligned} \text{(iii) Mean height of the girls} &= \frac{135 + 150 + 139 + 138 + 151 + 132 + 146 + 149 + 143 + 141}{10} \\ &= \frac{1414}{10} = 141.4 \text{ cm} \end{aligned}$$

(iv) The number of girls whose height is more than mean height = 5.

Question 7.

If the arithmetic mean of 8, 4, 6, x, 2, 7 is 5, then find the value of x.

Solution:

8, 4, 6, x, 2, 7

Arithmetic mean = 5

$$\text{Mean} = \frac{8+4+6+x+2+7}{6} = \frac{27+x}{6}$$

$$\therefore \frac{27+x}{6} = 5 \Rightarrow 27+x = 30$$

$$\Rightarrow x = 30 - 27 = 3$$

$$\therefore x = 3$$

Question 8.

Find the mean of the following data:

Marks obtained	2	3	4	7	10
Number of students	3	2	6	7	2

Solution:

Marks (x_1)	Number of students (f_1)	$f_1 \times x_1$
2	3	6
3	2	6
4	6	24
7	7	49
10	2	20
Total	20	105

$$\text{Mean} = \frac{\sum f_1 \times x_1}{\sum f_1} = \frac{105}{20} = 5.25$$