



NCERT Solutions For Class 7 Maths Data Handling Exercise 3.1

**Q1.** Find the range of heights of any ten students of your class.

**Ans:**

Let the heights (in cm) of 10 students of our class be

125, 127, 132, 133, 134, 136, 138, 141, 144, 146

Highest value among these observations = 146

Lowest value among these observations = 125

Range = Highest value - Lowest value

= (146 - 125) cm

= 21 cm

**Q2.** Organise the following marks in a class assessment, in a tabular form.

4, 6, 7, 5, 3, 5, 4, 5, 2, 6, 2, 5, 1, 9, 6, 5, 8, 4, 6, 7

(i) Which number is the highest?

(ii) Which number is the lowest?

(iii) What is the range of the data?

(iv) Find the arithmetic mean.

**Ans:**

Marks	Tally marks	Frequency
1		1
2		2
3		1
4		3
5		4
6		5
7		5
8		5
9		5

(i) Highest number = 9

(ii) Lowest number = 1

(iii) Range =  $(9 - 1) = 8$

(iv) Sum of all the observations =  $4 + 6 + 7 + 5 + 3 + 5 + 4 + 5 + 2 + 6 + 2$

$+ 5 + 1 + 9 + 6 + 5 + 8 + 4 + 6 + 7$

$$= 100$$

Total number of observations = 20

$$\begin{aligned}\text{Arithmetic mean} &= \frac{\text{Sum of all the observations}}{\text{Total number of the observations}} \\ &= \frac{100}{20} = 5\end{aligned}$$

**Q3.** Find the mean of the first five whole numbers.

**Ans:**

First five whole numbers are 0, 1, 2, 3, and 4.

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

Therefore, the mean of first five whole numbers is 2.

**Q4.** A cricketer scores the following runs in eight innings:

58, 76, 40, 35, 46, 45, 0, 100

Find the mean score.

**Ans:**

Runs scored by the cricketer are 58, 76, 40, 35, 46, 45, 0, and 100.

$$\text{Mean score} = \frac{\text{Total runs scored in all the innings}}{\text{Total number of the innings}}$$

$$\text{Mean score} = \frac{58+76+40+35+46+45+0+100}{8} =$$

$$\frac{400}{8} = 50$$

Therefore, mean score is 50.

**Q5.** Following table shows the points of each player scored in four games:

Player	Game 1	Game 2	Game 3	Game 4
A	14	16	10	10
B	0	8	6	4
C	8	11	Did not play	13

Now answer the following questions:

- (i) Find the mean to determine A's average number of points scored per game.
- (ii) To find the mean number of points per game for C, would you divide the total points by 3 or by 4? Why?
- (iii) B played in all the four games. How would you find the mean?
- (iv) Who is the best performer?

**Ans:**

(i) A's average number of points = 
$$\frac{14 + 16 + 10 + 10}{4}$$

$$= \frac{50}{4} = 12.5$$

(ii) To find the mean number of points per game for C, we will divide the total points by 3 because C played 3 games.

$$(iii) \text{ Mean of B's score} = \frac{0+8+6+4}{4} = \frac{18}{4} = 4.5$$

(iv) The best performer will have the greatest average among all. Now we can observe that the average of A is 12.5 which is more than that of B and C. Therefore, A is the best performer among these three.

**Q6.** 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 and 75. Find the:

- (i) Highest and the lowest marks obtained by the students.
- (ii) Range of the marks obtained.
- (iii) Mean marks obtained by the group.

**Ans:**

The marks obtained by the group of students in a science test can be arranged in an ascending order as follows.

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

(i) Highest marks = 95

Lowest marks = 39

(ii) Range = 95 - 39

= 56

$$\begin{aligned} \text{(iii) Mean marks} &= \\ &= \frac{(85 + 76 + 90 + 85 + 39 + 48 + 56 + 95 + 81 + 75)}{10} \end{aligned}$$

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

**Q7.** The enrolment in a school during six consecutive years was as follow:

1555, 1670, 1750, 2013, 2540, 2820

Find the mean enrolment of the school for this period.

**Ans:**

$$\begin{aligned} \text{Mean enrolment} &= \\ &= \frac{(1555 + 1670 + 1750 + 2013 + 2540 + 2820)}{6} \end{aligned}$$

$$= \frac{12348}{6} = 2058$$

**Q8.** The rainfall (in mm) in a city on 7 days of a certain week was recorded as follows:

Days	Rain fall (in mm)
Monday	0.0
Tuesday	12.2
Wednesday	2.1
Thursday	0.0
Friday	20.5
Saturday	5.5
Sunday	1.0

- (i) Find the range of the rainfall in the above data.
- (ii) Find the mean rainfall for the week.
- (iii) On how many days was the rainfall less than the mean rainfall.

**Ans:**

$$\begin{aligned}\text{(i) Range} &= (20.5 - 0.0) \text{ mm} \\ &= 20.5 \text{ mm}\end{aligned}$$

$$\begin{aligned}\text{(ii) Mean rainfall} &= \frac{(0.0 + 12.2 + 2.1 + 0.0 + 20.5 + 5.5 + 1.0)}{7}\end{aligned}$$

$$= \frac{41.3}{7} = 5.9 \text{ mm}$$

(iii) For 5 days (i.e., Monday, Wednesday, Thursday, Saturday, Sunday), the rainfall was less than the average rainfall.

**Q9.** 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 range of the data?
- (iv) What is the mean height of the girls?
- (v) How many girls have heights more than the mean height.

**Ans:**

Arranging the heights of 10 girls in an ascending order,

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

- (i) Height of the tallest girl = 151 cm
- (ii) Height of the shortest girl = 128 cm
- (iii) Range = (151 - 128) cm  
= 23 cm

(iv) Mean height =

$$\frac{(135 + 150 + 139 + 128 + 151 + 132 + 146 + 149 + 143 + 141)}{10}$$

$$= \frac{1414}{10} = 141.4 \text{ cm}$$

- (v) The heights of 5 girls are greater than the mean height (i.e., 141.4 cm) and these heights are 143, 146, 149, 150, and 151 cm.

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