NCERT Solutions Class 10 Maths
Chapter 13: Surface Areas and Volumes
Exercise 13.1

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Question Q1

QUESTION

A survey was conducted by a group of students as a part of their environment awareness programme, in which they collected the following data regarding the number of plants in 20 houses in a locality. Find the mean number of plants per house.

Number of plants	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14
Number of houses	1	2	1	5	6	2	3

Which method did you use for finding the mean, and why?

ANSWER

Mean number of plants per house = 8.1 plants. Direct method is used because the numerical values of x_i and f_i are small.

Question Q2

Consider the following distribution of daily wages of 50 workers of a factory.

Daily wages (in ₹)	500 - 520	520 - 540	540 - 560	560 - 580	580 - 600
Number of workers	12	14	8	6	10

Find the mean daily wages of the workers of the factory by using an appropriate method.

ANSWER

Mean daily wages = ₹545.20

Question Q3

The following distribution shows the daily pocket allowance of children of a locality. The mean pocket allowance is ₹18. Find the missing frequency f.

Daily pocket allowance (in ₹)	11 - 13	13 - 15	15 - 17	17 - 19	19 - 21	21 - 23	23 - 25
Number of children	7	6	9	13	f	5	4

ANSWER

Missing frequency f = 20.

Question Q4

Thirty women were examined in a hospital by a doctor and the number of heartbeats per minute were recorded and summarised as follows. Find the mean heartbeats per minute for these women, choosing a suitable method.

Number of heartbeats per minute	65 - 68	68 - 71	71 - 74	74 - 77	77 - 80	80 - 83	83 - 86
Number of women	2	4	3	8	7	4	2

ANSWER

Mean heartbeats per minute = 75.9

Question Q5

In a retail market, fruit vendors were selling mangoes kept in packing boxes. These boxes contained varying number of mangoes. The following was the distribution of mangoes according to the number of boxes.

Number of mangoes	50 - 52	53 - 55	56 - 58	59 - 61	62 - 64
Number of boxes	15	110	135	115	25

Find the mean number of mangoes kept in a packing box. Which method of finding the mean did you choose?

ANSWER

Mean number of mangoes per box = 57.19

Question Q6

The table below shows the daily expenditure on food of 25 households in a locality.

Daily expenditure (in ₹)	100 - 150	150 - 200	200 - 250	250 - 300	300 - 350
Number of households	4	5	12	2	2

Find the mean daily expenditure on food by a suitable method.

ANSWER

Mean daily expenditure on food = ₹211

Question Q7

QUESTION

To find out the concentration of SO_2 in the air (in parts per million, i.e., ppm), the data was collected for 30 localities in a certain city and is presented below:

Concentration of SO_2 (in ppm)	0.00 - 0.04	0.04 - 0.08	0.08 - 0.12	0.12 - 0.16	0.16 - 0.20	0.20 - 0.24
Frequency	4	9	9	2	4	2

Find the mean concentration of SO_2 in the air.

ANSWER

Mean concentration of SO_2 = 0.099 ppm

Question Q8

QUESTION

A class teacher has the following absentee record of 40 students of a class for the whole term. Find the mean number of days a student was absent.

Number of days	0 - 6	6 - 10	10 - 14	14 - 20	20 - 28	28 - 38	38 - 40
Number of students	11	10	7	4	4	3	1

ANSWER

Mean number of days absent = 12.48 days

Question Q9

QUESTION

The following table gives the literacy rate (in percentage) of 35 cities. Find the mean literacy rate.

Literacy rate (in %)	45 - 55	55 - 65	65 - 75	75 - 85	85 - 95
Number of cities	3	10	11	8	3

ANSWER

Mean literacy rate = 69.43 %

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