FREE NCERT SOLUTIONS

CLASS - 10

STATISTICS



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EXERCISE 14.1 - Question No. 1

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. Which method

did you use for finding the mean, and why?

Consider the following distribution of daily wages of 50 workers of

a factory. Find the mean daily wages of the workers of the factor}-

by using an appropriate method.

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EXERCISE 14.1 - Question No. 3

The following distribution shows the daily pocket allowance of

children of a locality. The mean pocket allowance is Rs 18. Find

the missing frequency f.

Thirty women were examined in a hospital by a doctor and the

number of heart beats per minute were recorded and summarised as

follows. Find the mean heart beats per minute for these women,

choosing a suitable method.

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EXERCISE 14.1 - Question No. 5

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. Find the mean number of mangoes kept in a

packing box. Which method of finding the mean did you choose?



EXERCISE 14.1 - Question No. 6

The table below shows the daily expenditure on food of 25

households in a locality. Find the mean daily expenditure on food

by a suitable method.

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EXERCISE 14.1 - Question No. 7

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: Find the mean concentration of SO_2 in the

air.



EXERCISE 14.1 - Question No. 8

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.



EXERCISE 14.1 - Question No. 9

The following table gives the literacy rate (in percentage) of 35

cities. Find the mean literacy rate.

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EXERCISE 14.2 - Question No. 1

The following table shows the ages of the patients admitted in a

hospital during a year: Find the mode and the mean of the data

given above. Compare and interpret the two measures of central

tendency.

The following data gives the information on the observed lifetimes

(in hours) of 225 electrical components: Determine the modal

lifetimes of the components.

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EXERCISE 14.2 - Question No. 3

The following data gives the distribution of total monthly

household expenditure of 200 families of a village. Find the modal

monthly expenditure of the families. Also, find the mean monthly

expenditure:

The following distribution gives the state-wise teacher-student ratio

in higher secondary schools of India. Find the mode and mean of

this data. Interpret the two measures.



EXERCISE 14.2 - Question No. 5

The given distribution shows the number of runs scored by some

top batsmen of the world in one-day international cricket matches.

Find the mode of the data.



A student noted the number of cars passing through a spot on a

road for 100 periods each of 3 minutes and summarised it in the

table given below. Find the mode of the data :



EXERCISE 14.3 - Question No. 1

The following frequency distribution gives the monthly

consumption of electricity of 68 consumers of a locality. Find the

median, mean and mode of the data and compare them.



If the median of the distribution given below is 28.5, find the

values of x and y.



EXERCISE 14.3 - Question No. 3

A life insurance agent found the following data for distribution of

ages of 100 policy holders. Calculate the median age, if policies are

given only to persons having age 18 years onwards but less than 60

year.

The lengths of 40 leaves of a plant are measured correct to the nearest millimetre, and the data obtained is represented in the following table : Find the median length of the leaves. (Hint: The data needs to be converted to continuous classes for finding the median, since the formula assumes continuous classes. The classes then change to 117.5- 126.5,126.5 - 135.5,..171.5 -180.5.)

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EXERCISE 14.3 - Question No. 5

The following table gives the distribution of the life time of 400

neon lamps Find the median life of a lamp.

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EXERCISE 14.3 - Question No. 6

100 surnames were randomly picked up from a local telephone directory and the frequency distribution of the number of letters in the English alphabets in the surnames was obtained as follows: Determine the median number of letters in the surnames. Find the mean number of letters in the surnames? Also, find the modal size

of the surnames.



EXERCISE 14.3 - Question No. 7

The distribution below gives the weights of 30 students of a class.

Find the median weight of the students.

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EXERCISE 14.4 - Question No. 1

The following distribution gives the daily income of 50 workers of

a factory. Convert the distribution above to a less than type

cumulative frequency distribution, and draw its ogive.

During the medical check-up of 35 students of a class, their weights were recorded as follows: Draw a less than type ogive for the given data. Hence obtain the median weight from the graph and verify the result by using the formula.

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EXERCISE 14.4 - Question No. 3

The following table gives production yield per hectare of wheat of

100 farms of a village. Change the distribution to a more than type

distribution, and draw its ogive.

SOLVED EXAMPLES - Question No. 1

The marks obtained by 30 students of Class X of a certain school in

a Mathematics paper consisting of 100 marks are presented in table

below. Find the mean of the marks obtained by the students.

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SOLVED EXAMPLES - Question No. 2

The table below gives the percentage distribution of female

teachers in the primary schools of rural areas of various states and

union territories (U.T.) of India. Find the mean percentage of

female teachers by all the three methods discussed in this section.



SOLVED EXAMPLES - Question No. 3

The distribution below shows the number of wickets taken by

bowlers in one-day cricket matches. Find the mean number of

wickets by choosing a suitable method. What does the mean

signify?

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SOLVED EXAMPLES - Question No. 4

The wickets taken by a bowler in 10 cricket matches are as follows:

2645021323 Find the mode of the data.

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SOLVED EXAMPLES - Question No. 5

A survey conducted on 20 households in a locality by a group of

students resulted in the following frequency table for the number of

family members in a household: Find the mode of this data.

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SOLVED EXAMPLES - Question No. 6

The marks distribution of 30 students m a mathematics examination

are given in Table of Example 1. Find the mode of this data. Also

compare and interpret the mode and the mean.

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SOLVED EXAMPLES - Question No. 7

A survey regarding the heights (in cm) of 51 girls of Class X of a

school was conducted and the following data was obtained: Find

the median height.

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SOLVED EXAMPLES - Question No. 8

The median of the following data is 525. Find the values of x and y,

if the total frequency is 100.

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SOLVED EXAMPLES - Question No. 9

The annual profits earned by 30 shops of a shopping complex in a

locality give rise to the following distribution: Draw both ogives

for the data above. Hence obtain the median profit.

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