NCERT Class 10 Chapter 14 Statistics CBSE Board Sample Problems Very Short Answer (For CBSE, ICSE, IAS, NET, NRA 2022)

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Question

Given below is a cumulative frequency distribution of "less than type" .

Marks obtained	Less than 20	Less than 30	Less than 40	Less than 50
No. of students cumulative frequency	8	13	19	24

Given below is a Cumulative Frequency Distribution of " Less Than Type

Change the above data into a continuous grouped frequency distribution

Solution

Class interval	Number of students (f_i)
10 - 20	8
20 - 30	5
30 - 40	6
40 - 50	5

Change the Above Data into a Continuous Grouped Frequency Distribution

Question

In a frequency distribution, if a = assumed mean = 55, $\sum f_i = 100$ **, h = 10 and** $\sum f_i u_i = -30$ **, then find the mean of the distribution**

Solution

$$\text{Mean} = a + \left(\frac{\sum f_i u_i}{\sum f_i}\right) \times h$$

$$= 55 + \left(\frac{-30}{100}\right) \times 10$$

$= 55 - 3 = 52$

Question

Find mode using an empirical relation when it is given that mean and median are 10.5 and 9.6 respectively.

Solution

Mean $= 10.5$ and median $= 9.6$

Empirical relation: 3 Median $=$ Mode $+ 2$ Mean

$3(9.6) =$ Mode $+ 2(10.5)$

$28.8 =$ Mode $+ 21$

Mode $= 28.8 - 21 = 7.8$

Question

A class teacher has the following absentee record of 40 students of a class for the whole term.

No. of days	0 - 6	6 - 10	10 - 14	14 - 20	20 - 28	28 - 38	38 - 40
No. of students	11	10	7	4	4	3	1

Absentee Record of 40 Students of a Class for the Whole Term

Write the above distribution as less than type cumulative frequency distribution.

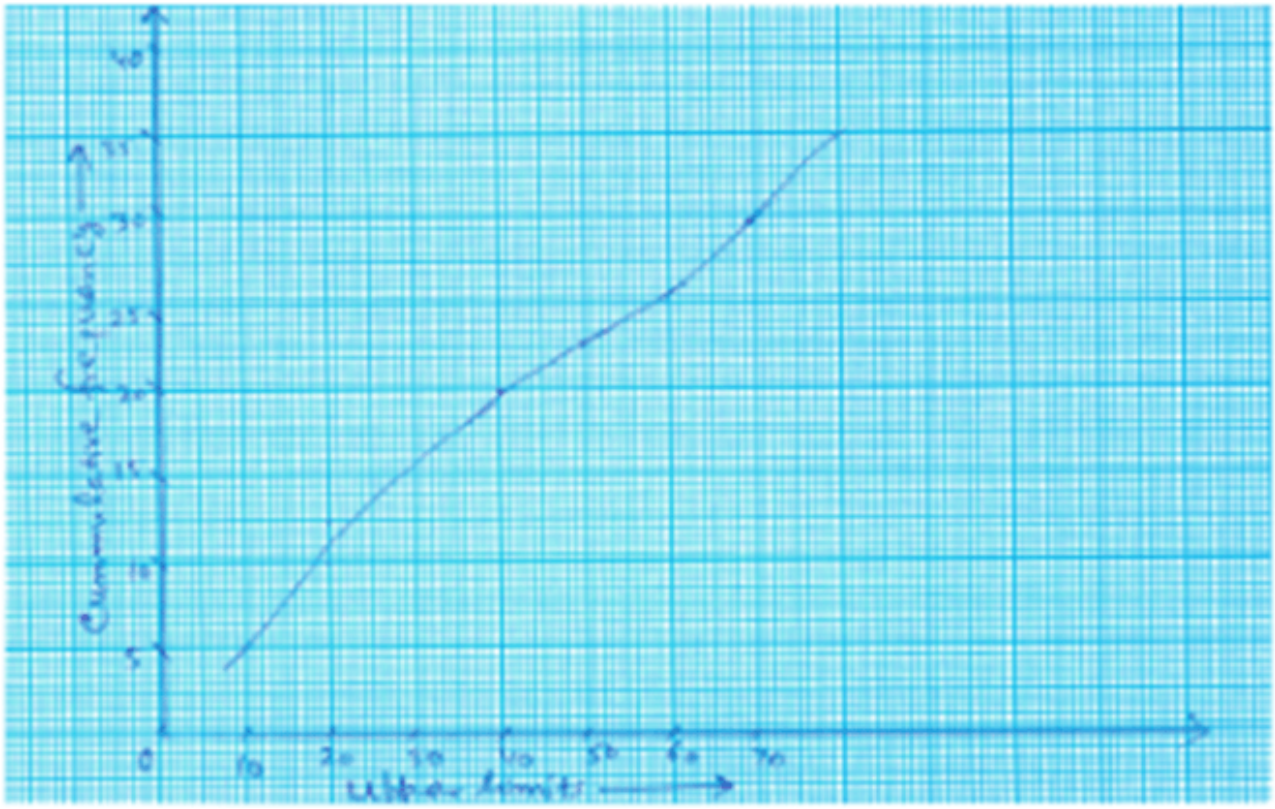
Solution

No. of days	Less than 6	Less than 10	Less than 14	Less than 20	Less than 28	Less than 38	Less than 40
No. of students	11	21	28	32	36	39	40

Less Than Type Cumulative Frequency Distribution

Question

Following is a cumulative frequency curve for the marks obtained by 40 students as shown in figure. Find the median marks obtained by the student.



Solution

40

Question

In a frequency distribution mode is 7.88, mean is 8.32 find the median.

Solution

Mode = 3 median −2 mean

$7.88 = 3 \text{ Median} - 2 \times 8.32$

$7.88 + 16.64 = 3 \text{ median}$

= median

$\therefore$ Median = 8.17

Question

The class in which mode lies is called as

Solution

Modal class

Question

If mean = 31.04 and median = 30.625, then find the mode.

Solution

3median mode + 2 mean

$3 \times 30.625 = \text{Mode} + 2 \times 31.04$

$\text{Mode} = 91.875 - 62.08$

$= 29.795$

Question

The mean and median of a distribution are both equal to 635.97. Find the mode

Solution

Mode = 635.97