Practice Challenge - Subjective

Subject: Mathematics

Topic : Statistics Exam Prep 1   Class: X

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.

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?

2. If the mean of the following frequency distibution is 24, find the value of p.

Class	$0-10$	$10-20$	$20-30$	$30-40$	$40-50$
Frequency	3	4	p	3	2

3. An incomplete distribution is given as follows:

Variable: 0 -10   10 - 20   20 - 30   30 - 40   40 - 50   50 - 60   60 - 70

Frequency: 10   20   ?   40   ?   25   15

You are given that the median value is 35 and the sum of all the frequencies is 170.

Using the median formula, fill up the missing frequencies.

4. A survey regarding the height (in cm) of 51 girls of class X of a school was conducted and the following data was obtained:

Height in cm	Number of Girls
Less than 140	4
Less than 145	11
Less than 150	29
Less than 155	40
Less than 160	46
Less than 165	51

Find the median height.

5. A survey was conducted on 20 families in a locality by a group of students. What will be the mode of the data?

Age of family member	0 − 20	20 − 40	40 − 60	60 − 80	80 − 100
Number of students	7	8	2	2	1

6. The marks obtained by the sudents of a class, in an exam which was out of 50 marks,is given below.

Marks	Number of students
5	1
7	2
11	2
16	3
21	5
24	6
28	3
32	5
34	8
39	6
43	4
45	2
49	3

(i)Find mode for the ungrouped data.

(ii) Represent the same as grouped data, with class intervals of width = 10 and find the mode for the grouped data.

7. 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.

Monthly consumption (in units)	Number of consumers
65 − 85	4
85 − 105	5
105 − 125	13
125 − 145	20
145 − 165	14
165 − 185	8
185 − 205	4

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.

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