INDIAN SCHOOL NIZWA - WORKSHEET

MATHEMATICS

12. STATISTICS

Name: _____ Date:_____ Class: IX Sec: ___

1. In the class intervals 10–20 and 20–30, the number 20 is included in
(a) 10–20 (b) 20–30 (c) both the intervals. (d) none of these intervals.

2. The class mark of the class 90–120 is
(a) 90 (b) 105 (c) 115 (d) 120

3. In a frequency distribution, the mid value of a class is 10 and the width of the class is 6. The lower limit of the class is
(a) 6 (b) 7 (c) 8 (d) 12

4. To draw a histogram to represent the following frequency distribution:

Class Interval	5 – 10	10 – 15	15 – 25	25 – 45	45 – 75
Frequency	6	12	10	8	15

The adjusted frequency for the class 25–45 is
(a) 6 (b) 5 (c) 3 (d) 2

5. For drawing a frequency polygon of a continuous frequency distribution, we plot the points whose ordinates are the frequencies of the respective classes and abscissa are respectively:
(a) upper limits of the classes (b) lower limits of the classes
(c) class marks of the classes (d) upper limits of preceding classes

6. In a frequency distribution, the mid value of a class is 10 and the width of the class is 6. The upper limit of the class is:
(a) 10 (b) 7 (c) 8 (d) 13

7. The width of each of five continuous classes in a frequency distribution is 5 and the lower class-limit of the lowest class is 10. The upper class-limit of the highest class is:
(a) 15 (b) 25 (c) 35 (d) 40

8. **Assertion (A):** Histogram is a resultant graph that appears like a solid figure, with consecutive rectangles having no gap in between.
Reason (R): Histogram is a graphical representation of a grouped frequency distribution with consecutive classes.

9. **Assertion (A):** Frequency polygons can be drawn independently without the histogram by joining the midpoints of the class–marks. These midpoint of the class marks are called class intervals.
Reason (R): Class mark = (Upper limit + Lower limit)/2

10. Convert the given frequency distribution into a continuous grouped frequency distribution:

Class Interval	150-153	154-157	157-161	162-165	166-169	170-173
Frequency	7	7	15	10	5	6

11. The table given below shows the number of persons from various age groups who participated in a campaign for promoting "USE OF CLEAN FUEL".

Age Group	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40
No. of persons	12	25	22	37	48	30

(i) Determine the class size.
(ii) Write the class limits of first class interval.
(iii) What is the class mark of fourth class interval?
(iv) Which class interval has maximum frequency?

12. Draw a frequency polygon for the following distribution:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of marks	7	10	6	8	12	3	2	2

13. The length of 40 leaves of a plant are measured correct to one millimetre, and the obtained data is represented in the following table:

Length (in mm)	118–126	127–135	136–144	145–153	154–162	163–171	172–180
No. of leaves	7	10	6	8	12	3	2

Draw a histogram to represent the given data.

14. The following table gives the lifetimes of 400 neon lamps:

Life time (in hours)	300-400	400-500	500-600	600-700	700-800	800-900	900-1000
No. of lamps	14	56	60	86	74	62	48

(i) Represent the given information with the help of a histogram and a frequency polygon.
(ii) How many lamps have a lifetime of 700 or more hours?

15. The marks obtained (out of 100) by a class of 80 students are given below:

Marks	10 – 20	20 – 30	30 – 50	50 – 70	70 – 100
Number of students	6	17	15	16	26

Construct a histogram to represent the data above.

16. In order to monitor and reduce reckless driving on Delhi roads, authorities have taken proactive measures by installing advanced speed-monitoring cameras at strategic locations prone to over speeding. These cameras aim to enhance road safety and ensure compliance with traffic regulations. Below is a frequency distribution table representing the speeds of cars observed passing through a specific monitoring spot on a particular day in Delhi. This data provides insights into driving patterns and helps identify areas where enforcement or awareness campaigns may be required.

Speed (in km/h)	Numbers of four-wheeler
30 – 40	3
40 – 50	6
50 – 60	25
60 – 70	65
70 – 80	50
80 – 90	28
90 – 100	14

(a) Draw a Histogram for the frequency distribution table. (2)
(a) Draw a frequency polygon using Histogram for the frequency distribution table. (2)