# INTERNATIONAL INDIAN SCHOOL – RIYADH

## SAII WORKSHEET 2015-16

**SUBJECT: Mathematics**                                                                 **STD: IX**

## STATISTICS

1. Following table shows a frequency distribution of the speed of cars passing through at a particular spot on a highway

| Class interval (km/h) | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 |
|---|---|---|---|---|---|---|---|
| frequency | 3 | 6 | 25 | 65 | 50 | 28 | 14 |

Draw a histogram and frequency polygon representing the data above.

2. The mean of the following distribution is 50.

| X | 10 | 30 | 50 | 70 | 90 |
|---|---|---|---|---|---|
| F | 17 | 5a+3 | 32 | 7a-11 | 19 |

Find the value of **a** and hence the frequencies of 30 and 70.                    (5,28,24)

3. The mean marks (out of 100) of boys and girls in an examination are 70 and 73, respectively. If the mean marks of all the students in the examination is71, find the ratio of the number of the boys to the number of the girls.                    (2:1)

4. The mean of 25 observations is 18. The mean of first 12 of them is 14 and that of last twelve is 17. Find the thirteenth result.                    (78)

5. Draw a histogram and frequency polygon from the following data:

| Class Interval | 21 - 24 | 26 - 29 | 31 – 34 | 36 - 39 | 41 - 44 | 46 - 49 |
|---|---|---|---|---|---|---|
| Frequency | 30 | 24 | 52 | 28 | 46 | 10 |

6. Following are the runs scored by two teams A and B is a 10 over match. Represent the data graphically on the same graph.

| OVER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------|---|---|---|---|---|---|---|---|---|----|
| TEAM A | 2 | 1 | 8 | 9 | 4 | 5 | 6 | 10 | 6 | 2 |
| TEAM B | 5 | 6 | 2 | 10 | 5 | 6 | 3 | 4 | 8 | 10 |

7. The median of the following observations arranged in ascending order is 24. Find x.

14, 18, x+2, x+4, 30, 34.                                      (21, 24)

Using the value of x, find the mean of the above data.

8. The following observations have been arranged in ascending order. 29, 32, 48, 50, x, x+2, 72, 78, 84, 95. If the median of this data is 63, then find the value of x.       ( 62 )

9. Find the mean of the following distribution.                      ( 8.2)

| x | 4 | 6 | 9 | 10 | 15 |
|---|---|---|---|----|----|
| F | 5 | 10 | 10 | 7 | 8 |

10. If mean of 7 observations in ascending order 28, 32, x, x+2, x+5, 43, 45 is 38. Find x and hence find the median.                                      (37, 39)

11. Find median and mode of the following data.

24, 17, 13, 24, 26, 20, 26, 30, 8, 41, 24                      (24, 24)

If one 24 is replaced by 26, find the median and mode. (New median & mode 24, 26)

12. Find the unknown frequency for the following distribution.

| Class Interval | 10 - 20 | 20 - 30 | 30 - 40 | 40 - 50 | 50 - 60 | 60 - 70 |
|---|---|---|---|---|---|---|
| Frequency | 12 | $x_2$ | 10 | $x_4$ | $x_5$ | 2 |
| Cumulative Frequency | $x_1$ | 25 | $x_3$ | 43 | 48 | 50 |

12 , 13 , 35 , 8 ,5

13. a) Find the arithmetic mean of first ten odd numbers.

   b) Find the mode for the following data.

   125, 175, 225, 125, 225, 175, 325, 125, 375, 225, 125

14. The water tax bill of 30 houses is given below

   144, 184, 130, 195, 132, 134, 196, 114, 212, 174, 188, 210, 202, 145, 175, 154, 174, 178, 166, 146, 135, 115, 120, 114, 140, 188, 176, 166, 210, 208.

   Construct a frequency distribution table with class size 10.

15. a) What is the mode of the following data?

   15, 17, 15, 19, 14, 18, 16, 15, 14, 20, 19, 14, 15

   b) The mid value of class interval is 42 and the class size is 10. What are the lower and upper limits?                                      (37 – 47)

   c) Find the range of the given data

   25, 18, 20, 22, 16, 6, 17, 15, 12, 30, 32, 10, 19, 8, 11, 20.                  (26)