MATHS

BOOKS - S CHAND IIT JEE FOUNDATION

DATA HANDLING

Question Bank 28 M C Q

1. Given class intervals $0 - 8, 8 - 16, 16 - 24, 24 - 32, \ldots,$ then

24 is considered in the class.

A. $16 - 24$

B. $24 - 32$

C. $8 - 24$

D. $24 - 38$

Answer: B

▶ **Watch Video Solution**

2. The class mark of a particular class is 17.5 and the class size is 5. The class interval is :

A. $14 - 19$

B. $15 - 20$

C. $14.5 - 19.5$

D. $17.5 - 22.5$

Answer: B

3. The class marks of a distribution are 105, 115, 125, 135, 145, 155, 165. The class size is :

A. 5

B. 10

C. 15

D. 20

Answer: B

▶ **Watch Video Solution**

4. The populations of four towns A, B, C and D as on 2001 are as follows:

Town	Population
A	6863
B	519
C	12185
D	1755

What is the most appropriate diagram to present the above data?

A. pie chart

B. Bar chart

C. Histogram

D. Line graph

Answer: B

5. Let $\bar{x}$ be the mean of n observations $x_1, x_2, x_3, \ldots x_n$, If (a-b) is added to each observation, then what is the mean of the new set of observations ?

A. zero

B. $\bar{x}$

C. $\bar{x} - (a - b)$

D. $\bar{x} + (a - b)$

Answer: D

▶ **Watch Video Solution**

6. Calculate the mean of weekly wages from the following frequency distribution :

Wages (in ₹)	No. of workers
30 – 40	10
40 – 50	20
50 – 60	40
60 – 70	16
70 – 80	8
80 – 90	6

A. 52

B. 43

C. 48

D. 56

Answer: D

▶ **Watch Video Solution**

7. The observations 29, 32, 48, 50, x, x + 2, 72, 78, 84, 95 are arranged in ascending order.

What is the value of x if the median of the data is 63?

A. 61

B. 62

C. 62.5

D. 63

Answer: B

▶ **Watch Video Solution**

8. The mean weight of the students in a certain class is 60 kg. The mean weight of the boys from the class is 70 kg and that of the girls is 55 kg. What is the ratio of the number of boys to that of girls ?

    A. $2:1$

    B. $1:2$

    C. $1:4$

    D. $4:1$

Answer: B

9. If the monthly expenditure pattern of a person who earns a monthly salary of Rs. 15,000 is represented in a pie graph, then the sector angle of an item on transport expenses measures $15°$. What is his monthly expenditure on transport ?

   A. Rs. 450

   B. Rs. 625

   C. Rs. 675

D. Cannot be computed from the iven data.

Answer: B

10. The table shows the number of fillings a class of 40 pupils had at the time of a dental inspection.

Number of fillings	0	1	2	3	4	5	6
Number of pupils	1	4	8	x	9	y	2

If the mean number of fillings per pupil is 3.2, find the values of x and y.

A. $x = 5, y = 4$

B. $x = 10, y = 6$

C. $x = 9, y = 6$

D. $x = 12, y = 4$

Answer: B

▶ **Watch Video Solution**

11. In a class of 19 students, seven boys failed in a test.

Those who passed scored 12, 15, 17, 15, 16, 15, 19, 19, 17, 18, 18 and 19 marks. The median score of the 19 students in the class is

A. 15

B. 16

C. 17

D. 18

Answer: A

12. The mean of 1,7,5,3,4 and 4 is m. The observations 3,2,4,2,3,3 and p have the mean (m-1) Find the median of this set of data.

A. 4

B. 2.5

C. 3

D. 5

Answer: C

13. A data set of n observations has mean $2\bar{x}$ while another data set of 2n observations has mean $\bar{x}$ The mean of the combined data set of 3n observations will be equal to :

A. $\bar{x}$

B. $\dfrac{3}{2}\bar{x}$

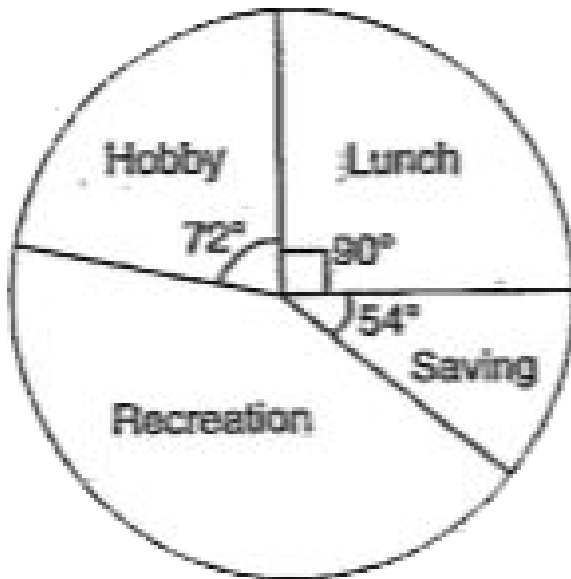C. $\dfrac{2}{3}\bar{x}$

D. $\dfrac{4}{3}\bar{x}$

Answer: D

14. The pie chart given below shows the expenses incurred and saving by a family in a month. What is the percentage of expenses

incurred on account of recreation ?

A. $\dfrac{800}{17}$ %

B. 20 %

C. 35 %

D. 40 %

Answer: D

15. The mean age of a class is 16 years. If the class teacher aged 40 years old is also included, the mean age increases to 17 years. The number of students in the class are :

A. 23

B. 33

C. 44

D. 16

Answer: A

16. The artithmetic mean of k numbers $y_1, y_2, \ldots, y_k$ is A. If y_k replaced by x_k, then the new arithmetic mean will be

A. $A - y_k + x_k$

B. $\dfrac{KA - y_k + x_k}{k}$

C. $A - (y_k - x_k)$

D. $\dfrac{(k-1)A}{k} - y_k + x_k$

Answer: B

▶ Watch Video Solution

17. The media of a set of eight numbers is 4.5

Given that seven of the numbers are 7,2,13,4,8,2

and 1, find the eight number and write down

the mode of eight numbers.

A. 4

B. 7

C. 2

D. 1

Answer: C

 Watch Video Solution

18. If the ratio of mode and median is $7:4,$

then the ratio of mean and mode is

A. $7:11$

B. $2:3$

C. $5:14$

D. $8:9$

Answer: C

> ▶ Watch Video Solution

19. If the median of $\dfrac{x}{6}$, $\dfrac{x}{2}$, $\dfrac{x}{4}$, $\dfrac{3x}{5}$ and $\dfrac{7x}{10}$ is

3, then the mean of the given observations is :
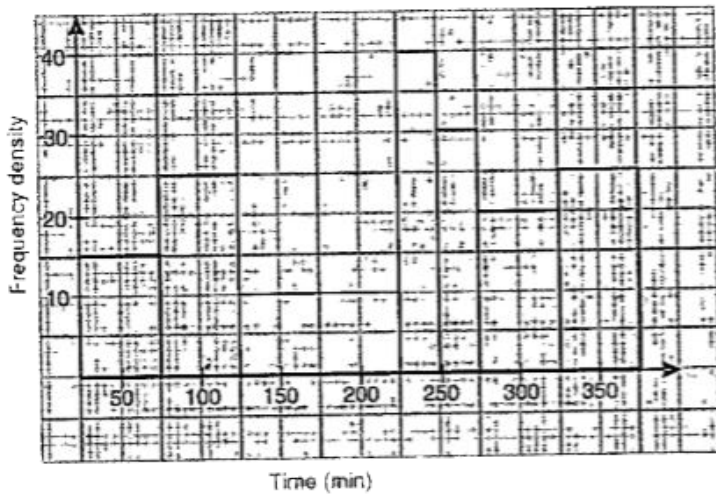
A. 2.5

B. 3.06

C. 2.16

D. 2.66

Answer: D

Frequency density vs Time (min)

20.

The diagram shows the histogram of the amount of time spent watching TV in a day for a group of students. Remember that the area of each rectangle is proportional to its frequency. Find the total number of students. (Take the most common base of the rectangles as 1 unit)

A. 165

B. 140

C. 130

D. 110

Answer: B

▶ **View Text Solution**

Self Assessment Sheet 27

1. Let m be the mid - point and l the upper class limit of a class in a continuous frequency distribution distribution The lowe limit of the class is

A. $2m + l$

B. $2m - l$

C. $m - l$

D. $m - 2l$

Answer: B

> ▶ **Watch Video Solution**

2. When rectangles are drawn with the areas proportional to the frequencies of respective class intervals, what is the diagram called ?

A. Bar graph

B. Frequency polygon

C. Pie graph

D. Histogram

Answer: D

▶ **Watch Video Solution**

3. If a frequency distribution for the number of persons x in household is perpared with class intervals $(1 - 4), (5 - 8), (9, 12)$ etc, then the number of persons x belonging to class interval $(5 - 8)$ satisfies.

A. $5 < x < 8$

B. $5 \leq x < 8$

C. $5 < x \leq 8$

D. $5 \leq x \leq 8$

Answer: D

4. The arithmetic mean of a set of 10 numbers is 20. If each number is first multiplied by 2 and then increased by 5, then what is the mean of the new numbers ?

A. 20

B. 25

C. 40

D. 45

Answer: D

5. The mean of twenty observations $x_1, x_2, x_3, x_4, \ldots x_{20}$ is m. If each of the first ten observations is decreased by 8, then the new mean is n. The difference $m - n$ equals

A. 16

B. 20

C. 4

D. 8

Answer: C

6. The relationship between mean, median and mode for a moderately skewed distribution is (a) Mode = 2 Median 3 Mean (b) Mode = Median 2 Mean (c) Mode = 2 Median Mean (d) Mode = 3 Median 2 mean

A. Mean > Median > Mode

B. Mean = Median = Mode

C. Mode - Mean = 3 (Median - Mean)

D. Mean - Mode = 3 (Mean - Median)

Answer: C

▶ **Watch Video Solution**

7. If sum of x observations is 216 and their mean is 27. Then the number of observations is:

A. 7

B. 8

C. 9

D. 10

Answer: B

▶ **Watch Video Solution**

8. Seven of the eight numbers in a distribution

are 11, 16, 6, 10, 13, 11, 13

Given that the median of the distribution is 12, find the mean of the distribution.

A. 12

B. 11

C. 11.6

D. 12.2

Answer: C

9. The mean of a,b and c is x. If $ab + bc + ca = 0$ what is the mean of a^2, b^2 and c^2 ?

A. $\dfrac{x^2}{3}$

B. x^2

C. $3x^2$

D. $9x^2$

Answer: C

10. The median of a set of 11 distinct observations is 15.5. If each of the smallest 5 observations of the set are decreased by 3, then the median of the new set :

A. In increased by 3

B. Is decreased by 3

C. Is three times the original median

D. Remains the same as that of the original set

Answer: D

▶ **Watch Video Solution**