THIRD MID-TERM TEST – 2024

Sivagangai

Standard IX

Reg.No.: ☐☐☐☐☐☐

MATHEMATICS

Time: 2.00 hrs. **Part - I** **Marks: 50**

I. Choose the correct answer: **8 x 1 = 8**

1. The semi-perimeter of a triangle having sides 15 cm, 20 cm and 25 cm is
   a) 60 cm b) 45 cm c) 30 cm d) 15 cm
2. The lateral surface area of a cube of side 12 cm is
   a) 144 cm^2 b) 196 cm^2 c) 576 cm^2 d) 664 cm^2
3. If the ratio of the sides of two cubes are 2:3, then ratio of their surface areas will be
   a) 4 : 6 b) 4 : 9 c) 6 : 9 d) 16 : 36
4. The volume of a cuboid is 660 cm^3 and the area of the base is 33 cm^2. Its height is
   a) 10 cm b) 12 cm c) 20 cm d) 22 cm
5. Which one is not true?
   a) 1 cm^3 = 1 ml b) 1000 cm^3 = 10 l c) 1000 cm^3 = 1 l d) 1 m^3 = 1000 l
6. Let 'm' be the mid point and 'b' be the upper limit of class in a continuous frequency distribution. The lower limit of the class is
   a) 2m – b b) 2m + b c) m – b d) m – 2b
7. The algebraic sum of the deviations of a set of 'n' values from their mean is
   a) 0 b) n – 1 c) n d) n + 1
8. The mean of a set of numbers is $\bar{X}$. If each number is multiplied by Z, then mean is
   a) $\bar{X} + z$ b) $\bar{X} - z$ c) $z\bar{X}$ d) $\bar{X}$

II. Answer any six of the following. **6 x 2 = 12**

9. Write Heron's formula. Also if a = b = c, then find the area of the triangle by Heron's formula.
10. Find the TSA of a cuboid where length, breadth and height are 7.5 m, 3 m and 5 m respectively.
11. If the total surface area of a cube is 2400 cm^2 then, find its lateral surface area.
12. A cubical tank can hold 64,000 litres of water. Find the length of its side in metres.
13. The volume of a container is 1440 m^3. The length and the breadth of the container are 15 cm and 8 cm respectively. Find its height.
14. A cricketer played 8 matches and scored the following scores.
    25, 32, 36, 38, 45, 41, 35, 36. Find the mean.
15. The arithmetic mean of 6 values is 45 and if each value is increased by 4, then find the arithmetic mean of new set of values.
16. The following are scores obtained by 11 players in a cricket match.
    7, 21, 45, 12, 56, 35, 25, 0, 58, 66, 29. Find the median score.
17. The median of observation 11, 12, 14, 18, x+2, x+4, 30, 32, 35, 41 arranged in ascending order is 24. Find the value of x.

III. Answer any six of the following. **6 x 5 = 30**

18. A land is in the shape of rhombus. The perimeter of the land is 16 cm and one of the diagonal is 48 m. Find the area of the land.
19. The length, breadth and height of a hall are 25 m, 15 m and 5 m respectively. Find the cost of renovating its floor and four walls at the rate of ₹80 per m^2.
20. The length, breadth and height of a cuboid are in the ratio 7:5:2. Its volume is 35840 cm^3. Find its dimensions.
21. The side of a metallic cube is 12 cm. It is melted and formed into a cuboid whose length and breadth are 18 cm and 16 cm respectively. Find the height of the cuboid.
22. The dimensions of a brick are 20 cm x 12 cm x 8 cm. How many such bricks will be required to build a wall of 16 m length, 48 cm breadth and 8 m height?
23. The following data gives the number of residents in an area based on their age. Find the average age of the residents.

Age	0-10	10-20	20-30	30-40	40-50	50-60
No. of residents	2	6	9	7	4	2

24. If the mean of the following data is 20.2, then find the value of 'p'.

Marks	10	15	20	25	30
No. of students	6	8	p	10	6

25. Calculate the median for the following data :

Height (cm)	160	150	152	161	156	154	155
No. of students	12	8	4	4	3	3	7

26. The following are the marks scored by the students in the summative assessment exam.

Class interval	0-10	10-20	20-30	30-40	40-50	50-60
No.of students	2	7	15	10	11	5

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