MATHEMATICS MOCK TEST

Class: IX | Set: 21

Time: 1 Hour 30 Minutes | Written Marks: 35 | Viva: 5 | Total: 40 Marks

NAME: _____ **ROLL NO:** _____

SECTION A

(1 Mark Each)

1. What is the sum of all the interior angles of a triangle?
2. If the side of a cube is 5 cm, find its total surface area.
3. Find the coordinates of a point which lies on the y-axis and is at a distance of 4 units from the x-axis in the positive direction.
4. State the Heron's formula for finding the area of a triangle.
5. In a circle, what is the relationship between the diameter and the radius?

SECTION B

(2 Marks Each)

6. The sides of a triangle are 9 cm, 12 cm and 15 cm. Find its area using Heron's formula.
7. Prove that the angles opposite to equal sides of an isosceles triangle are equal.
8. Find the mean of the first five odd natural numbers.
9. Write a linear equation for the following statement: "The cost of a notebook is twice the cost of a pen."
10. Find the volume of a right circular cone with radius 3.5 cm and height 12 cm.

SECTION C

(3 Marks Each)

11. Show that each angle of a rectangle is a right angle.
12. A chord of a circle is equal to the radius of the circle. Find the angle subtended by the chord at a point on the minor arc.
13. Draw the graph of the linear equation $x - y = 0$. In which quadrants does the line lie?
14. The sides of a triangular park are in the ratio $12 : 17 : 25$ and its perimeter is 540 m. Find its area.

SECTION D

(4 Marks Each)

15. State and prove the Mid-point Theorem for a triangle.

16. A wall of length 10 m was to be built across an open ground. The height of the wall is 4 m and thickness of the wall is 24 cm. If this wall is to be built with bricks whose dimensions are 24 cm $\times$ 12 cm $\times$ 8 cm, how many bricks would be required?

VIVA VOCE

(5 Marks)

- **Mensuration:** If the radius of a sphere is doubled, how many times does its volume increase?
- **Circles:** What is the angle subtended by a diameter at any point on the circle?
- **Statistics:** Define 'Frequency' in a distribution.
- **Triangles:** What are the conditions for RHS congruence of two triangles?
- **Quadrilaterals:** Is every rhombus a square? Explain why.