MATHEMATICS MOCK TEST
Class: IX | Set: 26

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

NAME: _____   ROLL NO: _____

SECTION A   (1 Mark Each)

1. Find the semi-perimeter of a triangle with sides 15 cm, 20 cm and 25 cm.

2. What are the coordinates of a point lying on the x-axis at a distance of 5 units from the origin?

3. Write the formula for the curved surface area of a right circular cylinder.

4. If $3x + 5 = 11$, find the value of x.

5. Define 'Circumference' of a circle.

SECTION B   (2 Marks Each)

6. Using Heron's formula, find the area of a triangle whose sides are 5 cm, 12 cm and 13 cm.

7. The angles of a quadrilateral are in the ratio $1 : 2 : 3 : 4$. Find the largest angle.

8. Find the mean of the first five composite numbers.

9. If the radius of a sphere is 7 cm, find its total surface area.

10. Prove that the diagonals of a parallelogram divide it into two congruent triangles.

SECTION C   (3 Marks Each)

11. Find the area of a triangle whose sides are 11 cm, 60 cm and 61 cm using Heron's formula.

12. Prove that the angle in a semi-circle is a right angle.

13. A cylindrical vessel of radius 7 cm and height 10 cm is full of water. Find the volume of water in the vessel. (Use $\pi = \frac{22}{7}$)

14. Draw the graph of the linear equation $x - y = 0$. In which quadrants does this line lie?

SECTION D   **(4 Marks Each)**

15. **Question 15:** The perimeter of a triangular field is 450 m and its sides are in the ratio $13 : 12 : 5$. Find the area of the field. Also, calculate the cost of reaping the field at the rate of ₹10 per 100 m^2.

16. **Question 16:** In a circle of radius 5 cm, AB and CD are two parallel chords of length 6 cm and 8 cm respectively. Calculate the distance between the chords if they are on the same side of the centre.

VIVA VOCE   **(5 Marks)**

- **Triangles:** Can a triangle have two obtuse angles? Why?

- **Heron's Formula:** What is the significance of the variable 's' in the formula?

- **Circles:** What is the difference between a chord and a secant?

- **Statistics:** How do you calculate the 'Mode' of a data set?

- **Geometry:** What is the sum of exterior angles of any convex polygon?