MATHEMATICS MOCK TEST

Class: IX | Set: 22

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

NAME: _____ **ROLL NO:** _____

SECTION A

(1 Mark Each)

1. Find the class mark of the class interval $150 - 160$.
2. Find the curved surface area of a right circular cone whose slant height is 10 cm and base radius is 7 cm.
3. If $x = 0$ is a solution of the equation $2x + 3y = 12$, find the value of y.
4. What is the measure of an angle subtended by a diameter in a semi-circle?
5. Calculate the semi-perimeter of a triangle with sides 13 cm, 14 cm and 15 cm.

SECTION B

(2 Marks Each)

6. The sides of a triangle are in the ratio $3 : 4 : 5$ and its perimeter is 36 cm. Find its area using Heron's formula.
7. Find the radius of a sphere whose surface area is 616 cm^2.
8. Prove that the perpendicular from the centre of a circle to a chord bisects the chord.
9. Find the mode and range of the following data: $2, 3, 4, 5, 0, 1, 3, 3, 4, 3$.
10. In a parallelogram $ABCD$, if $\angle A = 75°$, find the measures of $\angle B, \angle C$ and $\angle D$.

SECTION C

(3 Marks Each)

11. The curved surface area of a right circular cylinder of height 14 cm is 88 cm^2. Find the volume of the cylinder.
12. Prove that angles in the same segment of a circle are equal.
13. If the diagonal of a square is 10 cm, find the area of the square.
14. The following table gives the life times of 400 neon lamps:

Life time (hrs)	300–400	400–500	500–600	600–700	700–800
No. of lamps	14	56	60	86	74

Represent the given information with the help of a bar graph.

SECTION D

(4 Marks Each)

A hemispherical tank is made up of an iron sheet 1 cm thick. If the inner radius is 1 m, find the volume of the iron used to make the tank.

16. Show that the bisectors of the angles of a parallelogram form a rectangle.

VIVA VOCE

(5 Marks)

- **Statistics:** What is the difference between an inclusive and exclusive class interval?
- **Geometry:** Can a cyclic quadrilateral also be a parallelogram? Under what condition?
- **Mensuration:** What is the total surface area of a hemisphere of radius r?
- **Algebra:** What is the coordinate of a point where the graph of $x + y = 5$ cuts the x-axis?
- **Shapes:** Define a 'Sector' of a circle.