
MATHEMATICS MOCK TEST

Class: IX | Set: 19

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

NAME: _____

ROLL NO: _____

SECTION A

(1 Mark Each)

1. Find the radius of a sphere whose surface area is 154 cm^2 .
2. What is the sum of the angles of a quadrilateral?
3. If the base of a triangle is 6 cm and its area is 12 cm^2 , find its height.
4. Write one solution for the equation $2x + y = 7$.
5. Define 'Major Arc' of a circle.

SECTION B

(2 Marks Each)

6. The angles of a quadrilateral are in the ratio 3 : 5 : 9 : 13. Find all the angles.
7. Using Heron's formula, find the area of a triangle whose sides are 8 cm, 11 cm, and 13 cm.
8. If the curved surface area of a cylinder is 176 cm^2 and its base radius is 4 cm, find its height.
9. Prove that equal chords of a circle subtend equal angles at the centre.
10. Show that the diagonals of a square are equal and bisect each other at right angles.

SECTION C

(3 Marks Each)

11. A conical pit of top diameter 3.5 m is 12 m deep. What is its capacity in kilolitres?
12. Prove that the angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.
13. $ABCD$ is a parallelogram in which P and Q are mid-points of opposite sides AB and CD . Prove that $APCQ$ is a parallelogram.
14. The following data shows the weights (in kg) of 8 students: 45, 50, 48, 52, 50, 46, 50, 54. Find the Mean and Mode of the data.

SECTION D

(4 Marks Each)

A lead shot of diameter 6 cm is melted and cast into a right circular cylinder of height 24 cm. Find the radius of the base of the cylinder.

16. Prove that the line segment joining the mid-points of two sides of a triangle is parallel to the third side and is half of it.

VIVA VOCE

(5 Marks)

- **Heron's Formula:** Can we find the area of a quadrilateral using Heron's Formula? How?
- **Circles:** What is a cyclic quadrilateral?
- **Mensuration:** What is the formula for the volume of a hemisphere?
- **Statistics:** What is the difference between primary and secondary data?
- **Algebra:** How many variables are there in a linear equation representing a straight line on a graph?