# MATHEMATICS MOCK TEST

**Class: VIII | Set: 25**

**Time: 2 Hours | Written Marks: 35 | Viva: 5 | Total: 40 Marks**

**NAME:** _____ **ROLL NO:** _____

## SECTION A

**(1 Mark Each)**

1. A die is rolled once. What is the probability of getting a composite number?
2. Find the class mark of the class interval $250 - 350$.
3. State whether the following is True or False: "Every circle has a unique diameter."
4. The perimeter of a rectangle is $51.8$ m and its length is $16.5$ m. Find its breadth.
5. Find the capacity of a rectangular sand box of dimensions $5$ cm $\times$ $4$ cm $\times$ $3$ cm.

## SECTION B

**(2 Marks Each)**

6. Construct a quadrilateral $ABCD$ in which $AB = CD = 5.1$ cm, $BC = 4.7$ cm, $DA = 4.2$ cm and $\angle BCD = 60^\circ$ using a ruler and compasses.
7. $PQRS$ is a parallelogram with $PQ = 26$ cm and $QR = 20$ cm. If the distance between its longer sides is $12.5$ cm, find the distance between its shorter sides.
8. In a draw, there are $10$ prizes and $20$ blanks. A ticket is chosen at random. What is the probability of getting a prize?
9. Find the weight of a solid cylinder of radius $10.5$ cm and height $60$ cm, if the material of the cylinder weighs $5$ grams per cm$^3$.
10. A family drinks $2$ L $250$ mL of milk in the morning and $1$ L $500$ mL in the evening. How much milk do they drink in a day? Express the answer in litres using decimals.

## SECTION C

**(3 Marks Each)**

11. Construct a quadrilateral $EFGH$ in which $EF = 6$ cm, $FG = 5.3$ cm, $EH = 5$ cm, $\angle E = 60^\circ$ and $\angle F = 75^\circ$.
12. In the adjoining figure, $ABCD$ is a trapezium in which parallel sides are $AB = 78$ cm, $DC = 52$ cm and the non-parallel sides are $BC = 30$ cm and $AD = 28$ cm. Find the area of the trapezium.
13. The total surface area of a solid cylinder is $462$ cm$^2$ and its curved surface area is one-third of its total surface area. Find the volume of the cylinder.

**14.** The number of pressure cookers produced in a factory during five consecutive months is given below:

| **Month** | January | February | March | April | May |
|---|---|---|---|---|---|
| **No. of Cookers** | 780 | 1100 | 920 | 1040 | 1280 |

Represent the above information by a Bar Graph.

## SECTION D

**(4 Marks Each - Case Study)**

**Case Study 1: Land Development Analysis**
A rectangular plot of land measures $95$ m by $72$ m. Inside the plot, a path of uniform width $3.5$ m is constructed all around for walking. The rest of the plot is to be laid with grass.

(i) Find the total area of the path constructed inside the plot. (2 Marks)

(ii) Find the total expense involved in constructing the path at ₹ $46.50$ per $m^2$ and laying the grass on the remaining area at ₹ $3.75$ per $m^2$. (2 Marks)

**Case Study 2: Academic Performance Data (Pie Chart)**
The marks obtained by Rahul in five subjects are: English (120), Hindi (90), Mathematics (75), Science (105), and Social Studies (150). Total Marks = 540.

(i) Calculate the central angle for the 'Science' and 'Social Studies' sectors to represent this data on a pie-chart. (2 Marks)

(ii) If a subject is chosen at random, what is the probability that Rahul scored more than 100 marks in that subject? (2 Marks)

## VIVA VOCE

**(5 Marks)**

- **Probability:** A letter is chosen at random from the letters of the word **EXAMINATION**. What is the probability that it is a vowel?
- **Circles:** Name all the parts of a circle bounded by an arc and the two radii at its ends.
- **Mensuration:** How many cubic decimetres ($dm^3$) make one Litre?
- **Statistics:** What is the difference between the 'Lower limit' and 'Upper limit' of a class interval?
- **Solids:** What is the formula for the Total Surface Area of a solid cylinder?