
MATHEMATICS MOCK TEST

Class: VIII | Set: 16

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 probability of an impossible event?
2. Name the point where the x -axis and y -axis intersect in a Cartesian plane.
3. A pie chart is also known as a _____ graph.
4. If a coin is tossed, what is the probability of getting a 'Tail'?
5. In which quadrant does the point $(-3, 4)$ lie?

SECTION B

(2 Marks Each)

6. A die is thrown once. Find the probability of getting a prime number.
7. Plot the following points on a graph sheet: $A(2, 3)$, $B(5, 3)$, $C(5, 5)$.
8. In a Pie Chart, a component represents 25% of the total data. Find the central angle for this component.
9. Write the coordinates of the vertices of a square whose side is 4 units and one vertex is at the origin $(0, 0)$ in the first quadrant.
10. A group of 20 students was asked about their favorite subject. 5 students chose Maths. Find the probability that a student chosen at random likes Maths.

SECTION C

(3 Marks Each)

11. There are 10 cards numbered 1 to 10 in a box. One card is drawn at random. Find the probability of getting:
 - (i) A number greater than 6.
 - (ii) A multiple of 3.
 - (iii) A single-digit number.
12. Draw a linear graph for the following data:

Side of Square (cm)	2	3	4	5
Perimeter (cm)	8	12	16	20

13. The following data represents the expenditure of a family on different items:

Item	Food	Rent	Education	Others
Amount (₹)	4000	2000	1500	500

Calculate the central angles required to draw a Pie Chart for this data.

14. Find the coordinates of the points where the line segment joining $(2, 3)$ and $(2, 7)$ meets the axes.

SECTION D

(4 Marks Each - Case Study)

Case Study 1: The Annual School Result

In a class of 60 students, the results of an annual examination are represented by a Pie Chart. The central angle for 'First Division' is 90° , for 'Second Division' is 150° , and the rest is 'Third Division'.

- How many students obtained First Division? (2 Marks)
- Find the number of students who obtained Third Division. (2 Marks)

Case Study 2: The Lucky Draw

A bag contains 5 red balls, 8 white balls, and 7 black balls. A ball is drawn at random from the bag.

- What is the probability that the drawn ball is white? (2 Marks)
- What is the probability that the drawn ball is NOT red? (2 Marks)

VIVA VOCE

(5 Marks)

- **Probability:** What is the maximum value of the probability of any event?
- **Graphs:** What is a linear graph? How does it differ from a bar graph?
- **Coordinates:** If a point lies on the x -axis, what will be its y -coordinate?
- **Pie Charts:** What is the sum of all central angles in a pie chart?
- **Data:** Define 'Random Experiment' in probability.