
MATHEMATICS MOCK TEST

Class: VIII | Set: 20

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 $250 - 300$.
2. What is the probability of an event that is certain to happen?
3. Find the coordinates of a point lying on the y -axis at a distance of 4 units from the x -axis in the negative direction.
4. A pie chart represents a total of 720 students. If the central angle for 'Science' is 60° , how many students like Science?
5. In which quadrant does the point $(2, -7)$ lie?

SECTION B

(2 Marks Each)

6. A coin is tossed twice. List all possible outcomes and find the probability of getting exactly one head.
7. Plot the points $A(1, 2)$, $B(4, 2)$, and $C(1, 5)$ on a graph sheet. Join them to form a triangle.
8. In a frequency distribution, the class intervals are $10 - 20$, $20 - 30$ etc. What is the class size? Also, identify the lower limit of the class $40 - 50$.
9. The central angle for 'Rent' in a family budget pie chart is 90° . If the total income is ₹24,000, find the amount spent on rent.
10. Find the coordinates of the points where the line segment joining $(4, 0)$ and $(0, 4)$ intersects the axes.

SECTION C

(3 Marks Each)

11. **Histogram Construction:** Construct a histogram for the following frequency distribution of marks obtained by 50 students:

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	5	10	15	12	8

12. From a well-shuffled deck of 52 cards, one card is drawn. Find the probability of:

-
- (i) Getting a black face card.
 - (ii) Getting a diamond card.
 - (iii) Getting a king of hearts.

13. Draw a linear graph for the following data showing the relationship between side of a square and its area:

Side (cm)	1	2	3	4	5
Area (cm²)	1	4	9	16	25

Is this a straight line graph? Justify.

14. A die is thrown once. Find the probability of getting:

- (i) An odd number.
- (ii) A multiple of 2 or 3.
- (iii) A number less than 1.

SECTION D

(4 Marks Each - Case Study)

Case Study 1: The Rainfall Record

The following line graph represents the rainfall (in mm) in a city during a week: *Mon: 10 | Tue: 25 | Wed: 15 | Thu: 40 | Fri: 30 | Sat: 10 | Sun: 5.*

- (i) On which day was the rainfall exactly 4 times the rainfall of Sunday? (2 Marks)
- (ii) Calculate the average (mean) daily rainfall for the entire week. (2 Marks)

Case Study 2: Election Results Survey

A local survey was conducted with 3600 voters regarding their preference for 4 parties. The results are shown in a Pie Chart. Party A: 120° , Party B: 100° , Party C: 80° , and Party D: 60° .

- (i) Which party received the maximum number of votes and how many? (2 Marks)
- (ii) What is the probability that a voter selected at random voted for either Party C or Party D? (2 Marks)

VIVA VOCE

(5 Marks)

- **Data:** What is the difference between a Histogram and a Bar Graph?
- **Probability:** What is the range of probability values for any random event?
- **Coordinates:** What are the coordinates of the origin?
- **Graphs:** What does a 'Linear Graph' represent?
- **Pie Charts:** Why is it necessary for the sum of all central angles to be 360° ?