MATHEMATICS MOCK TEST

Class: VI | Set: 01

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

NAME: _____   ROLL NO: _____

SECTION A   (1 Mark Each)

1. Which number occurs 20 times if we write all the numbers from 1 to 100?

2. Using the divisibility rule, check if $1,586$ is divisible by 2.

3. Write "20 and 5 hundredths" as a decimal.

4. What is the instrument used to draw a circle of a specific radius?

5. In Data Handling, what do we call the vertical lines used to count frequencies?

SECTION B   (2 Marks Each)

6. Find the greatest four-digit number in which all the digits are different.

7. Arrange the following decimals in ascending order: $0.5, 0.05, 5.5, 0.55$.

8. Draw a line segment $PQ = 7.3$ cm using a ruler.

9. The marks of 10 students are: $5, 7, 5, 8, 7, 5, 9, 8, 5, 7$. Prepare a frequency table using tally marks.

10. Add: $15.45 + 2.085 + 23.6$.

SECTION C   (3 Marks Each)

11. How many 4-digit numbers are there in all? Also, write any 3 numbers whose digit sum is 12.

12. **Decimals:** Sunita travelled 15 km 268 m by bus, 7 km 7 m by car and 500 m on foot in order to reach her school. How far is her school from her residence in kilometres?

13. **Constructions:** Draw any line segment $\overline{AB}$. Mark any point M on it. Through M, draw a perpendicular to $\overline{AB}$ using a ruler and compasses.

14. **Data Handling:** The following table shows the number of bicycles sold by a shop in 4 days.

Day	Mon	Tue	Wed	Thu
Bicycles	10	25	15	20

Taking a scale of 1 bicycle symbol = 5 bicycles, draw a pictograph.

SECTION D (4 Marks Each - Case Study)

Case Study 1: The Supercell Mystery
In a "Number Play" game, students are analyzing rows of numbers. A "supercell" is a cell whose value follows a specific pattern relative to its neighbors.

(i) Find the number of supercells in the following row:
8010, 2367, 942, 1163, 125, 3418, 3814, 3184, 3481. (2 Marks)

(ii) Is it possible to fill a grid with all distinct numbers such that there are no supercells? (2 Marks)

Case Study 2: Shopping Spree
Rahul went to the market with ₹500. He bought a book for ₹125.50, a pen for ₹42.75, and a geometry box for ₹95.00.

(i) What is the total amount spent by Rahul? (2 Marks)

(ii) How much money is left with him after the shopping? (2 Marks)

VIVA VOCE (5 Marks)

- **Number Play:** After how many iterations starting with 3814 do we arrive at Kaprekar's constant?

- **Decimals:** How do you convert $7/100$ into a decimal?

- **Construction:** What is the angle formed by a perpendicular bisector with the line segment?

- **Data Handling:** What is the purpose of using a "Scale" in a bar graph?

- **Logic:** If there are 55 seeds in 8 fruits, estimate the number of seeds in each fruit.