
MATHEMATICS MOCK TEST

Class: VIII | Set: 19

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

NAME: _____

ROLL NO: _____

SECTION A

(1 Mark Each)

1. In a draw there are 10 prizes and 20 blanks. A ticket is chosen at random. What is the probability of getting a prize?
2. Find the upper limit of the class interval $16 - 25$.
3. Fill in the blank: The perimeter of a circle is called its _____.
4. Find the volume of a cylinder in which diameter = 70 cm and height = 20 m.
5. Find the perimeter of a square each of whose sides measures 16 cm.

SECTION B

(2 Marks Each)

6. Construct a rectangle whose adjacent sides are 4.7 cm and 3.2 cm using a ruler and compasses.
7. Draw a circle with centre O and radius 3.6 cm. Draw a sector OAXB having the angle 75° . Measure the length of chord AB.
8. Find the length of the longest pole that can be placed in a room 12 m long, 8 m broad and 9 m high.
9. A die is rolled once. Find the probability of getting a composite number.
10. Arrange the following data in descending order: 2.3, 4.6, 1.2, 0.4, 3.5, 9.7, 6.1, 4.8, 0.8, 1.0.

SECTION C

(3 Marks Each)

11. Construct a parallelogram $ABCD$ in which $BC = 5$ cm, $CD = 3$ cm and diagonal $BD = 6$ cm.
12. Find the cost of carpeting a room 12 m long and 8 m broad with a carpet 75 cm broad at the rate of ₹116.50 per metre.
13. The daily income (in rupees) of 30 workers is given below:
83, 96, 91, 80, 97, 111, 90, 83, 112, 120, 103, 77, 82, 90, 70, 68, 89, 85, 78, 105, 94, 97, 90, 89, 102, 113, 90, 106, 70
Construct a frequency table using groups: $65 - 75$, $75 - 85$, $85 - 95$, $95 - 105$, $105 - 115$, $115 - 125$.

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14. The curved surface area of a cylinder is 4400 cm^2 and the circumference of its base is 110 cm . Find the height and the volume of the cylinder.

SECTION D

(4 Marks Each - Case Study)

Case Study 1: Numbered Cards Probability

19 cards numbered $1, 2, 3, \dots, 19$ are put in a box and mixed thoroughly. One card is chosen at random from the box.

- (i) What is the probability that the number on the chosen card is a prime number? (2 Marks)
- (ii) What is the probability that the number on the chosen card is a multiple of 4? (2 Marks)

Case Study 2: The Wire Bending Experiment

A wire is in the form of a semi-circle of radius 28 cm . It is straightened and then bent into the form of a square.

- (i) Find the total length of the wire (Perimeter of the semi-circle). Take $\pi = 22/7$. (2 Marks)
- (ii) What will be the length of the side of the square formed by this wire? (2 Marks)

VIVA VOCE

(5 Marks)

- **Circles:** What is a 'Secant' of a circle and how does it differ from a 'Chord'?
- **Probability:** A letter is chosen at random from the word **EXAMINATION**. What is the probability that it is a vowel?
- **Statistics:** What is the 'Class-size' of the class interval $20 - 30$?
- **Mensuration:** Find the area of a rhombus whose diagonals are 16 cm and 24 cm .
- **Solids:** Find the surface area of a cube whose volume is 343 cm^3 .