
MATHEMATICS MOCK TEST

Class: VIII | Set: 01

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

NAME: _____

ROLL NO: _____

SECTION A

(1 Mark Each)

1. Find the square of 0.05.
2. If $A = \{1, 3, 5\}$ and $B = \{2, 3, 4\}$, find $A \cap B$.
3. Find the cube of 1.2.
4. Solve for x : $3x - 7 = 14$.
5. If the diagonals of a quadrilateral bisect each other at right angles, name the quadrilateral.

SECTION B

(2 Marks Each)

6. Find the smallest number by which 180 must be multiplied so that the product is a perfect square.
7. Solve the inequation $2x + 3 < 11$ and represent the solution set if $x \in \mathbb{N}$.
8. If 15 oranges cost ₹110, how many oranges can be bought for ₹33?
9. Two adjacent angles of a parallelogram are in the ratio 2 : 3. Find the measure of all the angles of the parallelogram.
10. Find the simple interest on ₹2500 for 2 years at 6% per annum.

SECTION C

(3 Marks Each)

11. A can do a piece of work in 10 days and B can do it in 15 days. How long will they take to finish the work if they work together?
12. Find the cube root of 9261 by prime factorization method.
13. In a class of 50 students, 35 students like Cricket, 25 like Football and all students like at least one of the two games. How many students like both Cricket and Football? (Use Set theory).
14. Find the compound interest on ₹10,000 for 2 years at 10% per annum compounded annually.

SECTION D

(4 Marks Each - Case Study)

Case Study 1: The Construction Project

A building contractor employs 36 men to complete a specific task in 25 days. However, due to a deadline shift, the project needs to be completed faster.

- (i) If the project must be completed in 15 days, how many men should the contractor employ in total? (2 Marks)
- (ii) If 11 men leave the work before starting, how many days will the remaining men take to finish the job? (2 Marks)

Case Study 2: Geometric Properties in Architecture

An architect is designing a courtyard in the shape of a quadrilateral. The angles are measured as follows: x° , $(x + 20)^\circ$, $(x - 10)^\circ$ and $(x + 30)^\circ$.

- (i) Find the value of x using the angle sum property of a quadrilateral. (2 Marks)
- (ii) What is the measure of the largest angle of this courtyard? (2 Marks)

VIVA VOCE

(5 Marks)

- **Sets:** What is a "Null Set" and how is it denoted?
- **Variation:** Explain the difference between direct and inverse variation with a real-life example.
- **Quadrilaterals:** Is every rhombus a square? Justify.
- **Squares:** What is the square root of 1.44?
- **Equations:** How many solutions can a linear equation in one variable have?