

Mathematics — Ganita Manjari

Chapter 3 Test 6

The World of Numbers

Class IX | 2026-27

Time Allowed: 45 Minutes

Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. Choose one option in A; show working in B-D.
2. Show the main steps and give reasons where asked. Calculators are not allowed.
3. Give fractions in lowest terms. Use exact values unless a decimal is requested.

SECTION A

(5 questions × 1 mark = 5 marks)

1. Which statement about the natural numbers is true?

- (A) They have a greatest member
- (B) They include all negative integers
- (C) They have no greatest member
- (D) They contain every fraction

2. The product of two negative integers is always:

- (A) Negative
- (B) Positive
- (C) Zero
- (D) Irrational

3. The number $\sqrt{0}$ is:

- (A) Irrational
- (B) Negative
- (C) Not real
- (D) Rational

4. In 0.202002000200002 ..., successive 2s are separated by 1, 2, 3, 4, ... zeros. This number is:

- (A) Irrational
- (B) A terminating decimal
- (C) An integer
- (D) A pure repeating decimal

5. The decimal expansion of $\frac{5}{6}$ is:

- (A) Terminating
- (B) Non-terminating and non-repeating
- (C) Non-terminating and repeating
- (D) Exactly 0.83

SECTION B

(4 questions $\times$ 2 marks = 8 marks)

6. Find the difference:

$$\frac{4}{9} - \frac{5}{12}.$$

7. Evaluate:

$$|-\frac{11}{6}| + |-\frac{5}{3}|.$$

8. Write 3.052 as a fraction in lowest terms.

9. For rational numbers $a < b$, prove that $\frac{2a+b}{3}$ is a rational number strictly between them.

SECTION C

(3 questions $\times$ 3 marks = 9 marks)

10. Find the decimal expansion of $\frac{1}{13}$ by division. Identify the repeating block and explain why the digits repeat.

11. Evaluate $4(1 - \frac{1}{3} + \frac{1}{5})$, the first three terms of the series for π discussed in the chapter. Is the result rational? Can it equal π exactly?

12. For $\frac{3}{800}$, use prime factors to find the exact number of decimal places. Then write its decimal expansion.

SECTION D

(1 application question $\times$ 3 marks = 3 marks)

13. OA and AB are each 1 unit, and AB is perpendicular to OA. An arc with centre O and radius OB meets the positive number line at P. Find OB and OP, and explain why P does not represent a rational number.

