

Mathematics — Ganita Manjari

Chapter 3 Test 2

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 operation can take two integers, with a non-zero divisor, to a number that is not an integer?

- (A) Addition (B) Subtraction
(C) Division (D) Multiplication

2. The additive inverse of $-\frac{7}{9}$ is:

- (A) $-\frac{9}{7}$ (B) $\frac{9}{7}$
(C) $-\frac{7}{9}$ (D) $\frac{7}{9}$

3. Which statement about $\frac{22}{7}$ and π is correct?

- (A) $\frac{22}{7}$ approximates π
(B) $\frac{22}{7} = \pi$ exactly
(C) Both are irrational
(D) Both are integers

4. A fraction in lowest terms has denominator $2^3 \times 5^2$. Its terminating decimal needs exactly:

- (A) 2 decimal places (B) 3 decimal places
(C) 5 decimal places (D) 6 decimal places

5. The decimal expansion of an irrational number is:

- (A) Always terminating
(B) Always repeating
(C) Non-terminating and non-repeating
(D) Always a whole number

SECTION B

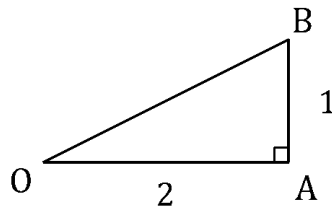
(4 questions $\times$ 2 marks = 8 marks)

6. Find the product in lowest terms:

$$-\frac{14}{15} \times \frac{25}{21}.$$

7. Find three distinct rational numbers strictly between 0.41 and 0.42. Write them as fractions with the same denominator.

8. $OA = 2$ units and $AB = 1$ unit, with a right angle at A . Find OB and state between which consecutive integers its length lies.



9. Convert $0.818181 \dots$ to a fraction in lowest terms. The block 81 repeats.

SECTION C

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

10. Verify the distributive law for:

$$-\frac{3}{5} \left(\frac{10}{9} - \frac{5}{6} \right).$$

11. Classify $\sqrt{144}$, $\sqrt{18}$, $0.121212 \dots$ (12 repeats) and $0.101001000100001 \dots$ (successive 1s are separated by 1, 2, 3, 4, ... zeros) as rational or irrational. Give reasons.

12. Express $0.23333 \dots$ as a fraction in lowest terms. Only the digit 3 repeats.

SECTION D

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

13. A tailor has $18\frac{3}{4}$ m of cloth. Each scarf needs $1\frac{1}{4}$ m. How many complete scarves can be made? If 11 scarves are made, how much cloth remains?