# Mathematics — Ganita Manjari

## Chapter 6 Test 2

### Measuring Space: Perimeter and Area

### 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. No calculators. Leave π and square roots exact unless directed otherwise.
3. Figures are schematic. Use the stated dimensions and show your working.

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## SECTION A

(5 questions × 1 mark = 5 marks)

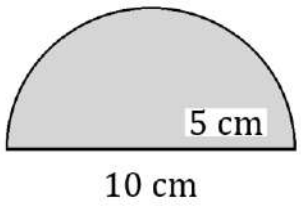
**1.** If all lengths of a triangle are multiplied by 3, its area is multiplied by:

(A) 3 (B) 6
(C) 9 (D) 27

**2.** Which statement is correct?

(A) $\pi = 22/7$ exactly (B) π is irrational
(C) π has a terminating decimal (D) π is an integer

**3.** Which expression gives the perimeter of the semicircular region?




(A) $5\pi$ cm (B) $10\pi$ cm
(C) $25\pi/2$ cm (D) $5\pi + 10$ cm

**4.** For an obtuse triangle, a perpendicular height may meet:

(A) An extension of the opposite side
(B) Only the interior of the triangle
(C) Only the longest side itself
(D) No line containing a side

**5.** Heron's formula determines a triangle's area directly from:

(A) One side only (B) Three side lengths
(C) Its perimeter only (D) One angle only

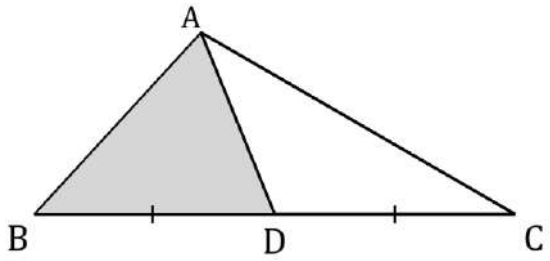
## SECTION B

(4 questions × 2 marks = 8 marks)

**6.** An arc of a circle of radius 15 cm has length $5\pi$ cm. Find its central angle.

**7.** An isosceles triangle has equal sides 13 cm and base 10 cm. Find its height and area.

**8.** In triangle ABC, BD = DC and AD is drawn. If the whole triangle has area 84 $cm^2$, find the shaded area and justify your answer.




**9.** A rectangle has perimeter 40 cm. Show that its area is at most 100 $cm^2$, and state when this maximum occurs.

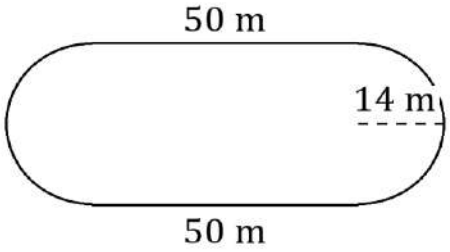
## SECTION C

(3 questions × 3 marks = 9 marks)

**10.** A cyclic quadrilateral has consecutive sides 4, 5, 7 and 10 cm. Find its area using Brahmagupta's formula.

**11.** A sector of radius 6 cm has area $12\pi$ $cm^2$. Find its angle and arc length.

**12.** The track boundary has two straight sections of 50 m each and two semicircular ends of radius 14 m. Find one lap length using $\pi \approx 22/7$.




## SECTION D

(1 application question × 3 marks = 3 marks)

**13.** A square garden has side 20 m and contains a circular pond of radius 7 m. Find the remaining area and the cost of turfing it at ₹50 per $m^2$. Use $\pi \approx 22/7$.