Mathematics — Ganita Manjari

Chapter 6 Test 3

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.

SECTION A

(5 questions × 1 mark = 5 marks)

1. A circle has diameter 0.7 m. Its circumference in centimetres is:

(A) 0.7π (B) 7π
(C) 70π (D) 700π

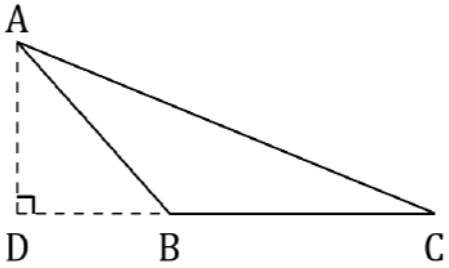
2. If a circle's diameter is doubled, its ratio C/D:

(A) Doubles (B) Is halved
(C) Becomes 4π (D) Remains π

3. A sector with central angle 135° occupies what fraction of its disc?

(A) $\frac{3}{8}$ (B) $\frac{1}{3}$
(C) $\frac{3}{4}$ (D) $\frac{5}{8}$

4. For base BC, which marked segment is the perpendicular height of triangle ABC?



(A) AB (B) AD
(C) AC (D) BD

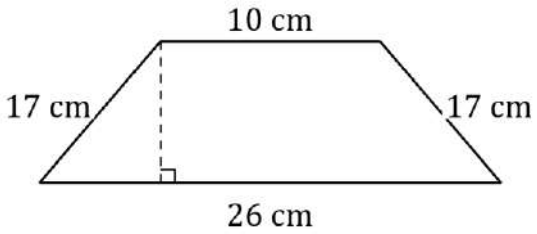
5. Brahmagupta's area formula applies directly to a quadrilateral when it is:

(A) Any rhombus
(B) Any parallelogram
(C) Cyclic
(D) Concave

SECTION B

(4 questions × 2 marks = 8 marks)

6. The isosceles trapezium has parallel sides 10 cm and 26 cm and equal legs 17 cm. Find its area.



7. Two sectors have equal central angles and radii in the ratio 2:3. Compare their arc lengths and areas.

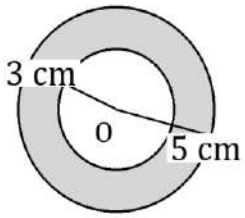
8. A right triangle has area 54 cm^2 and one perpendicular side 12 cm. Find its perimeter.

9. Verify Brahmagupta's formula for a rectangle with side lengths a and b.

SECTION C

(3 questions × 3 marks = 9 marks)

10. The concentric circles have radii 5 cm and 3 cm. Find the shaded area and the total length of its two boundary circles.



11. A chord subtends 90° at the centre of a circle of radius 10 cm. Find the areas of the minor segment and major segment.

12. Can a parallelogram with adjacent sides 8 cm and 5 cm have area 44 cm^2? Explain and find its greatest possible area.

SECTION D

(1 application question × 3 marks = 3 marks)

13. A 2 m wide path surrounds the outside of a 30 m by 20 m rectangular lawn. Find the path area and its paving cost at ₹10 per m^2.