Mathematics

Practice Test Paper 2

(Chapter 11: Areas Related to Circles)

Class X | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary steps and reasoning in Sections B, C and D.
4. Use π = 22/7 unless stated otherwise. Use of calculators is not allowed.

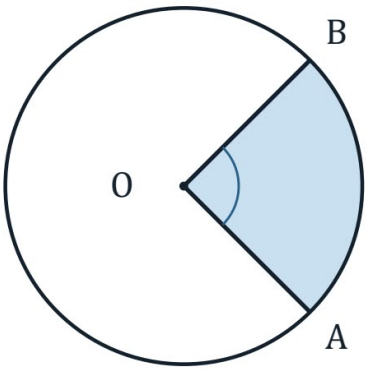
SECTION A

(5 questions × 1 mark = 5 marks)

1. If a sector's radius is doubled while its angle stays unchanged, its area becomes:

(A) twice
(B) half
(C) three times
(D) four times

2. The shaded quadrant has radius 7 cm. Its complete perimeter is:



(A) 11 cm
(B) 25 cm
(C) 22 cm
(D) 35 cm

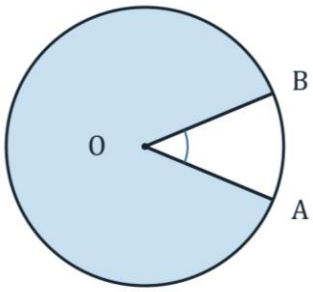
3. The sum of the areas of the minor and major sectors of radius r is:

(A) πr^2
(B) $2\pi r$
(C) $2\pi r^2$
(D) πr

4. If a circular arc has length l and radius r, the corresponding sector area is:

(A) rl
(B) $\frac{1}{2}rl$
(C) $2rl$
(D) $\frac{l}{2r}$

5. The unshaded minor sector has angle 45°. What is the angle of the shaded major sector?



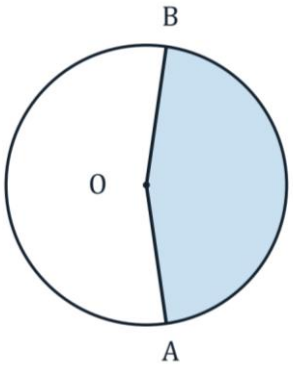
(A) 135° (B) 225°
(C) 45° (D) 315°

SECTION B

(4 questions × 2 marks = 8 marks)

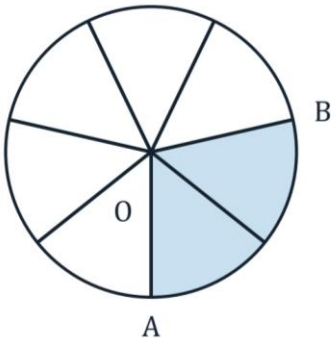
6. The length of an arc in a circle of radius 6 cm is 3π cm. Find its central angle.

7. A sector has radius 14 cm and perimeter 68 cm. Find its arc length and area.



8. A sector's area is 72 cm^2 and its arc is 16 cm long. Find its radius and perimeter.

9. A circular dial of radius 7 cm is divided into seven equal sectors. Find the angle and area of the two adjacent shaded sectors together.

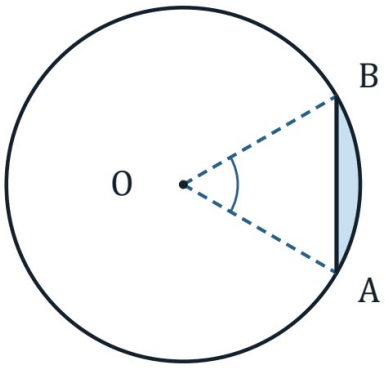


SECTION C

(3 questions × 3 marks = 9 marks)

10. A circular brooch of diameter 35 mm is made from silver wire. Five diameters of wire divide it into ten equal sectors. Find the total wire length and area of each sector.

11. Chord AB subtends 60° at the centre of a circle of radius 15 cm. Find the minor and major segment areas, correct to two decimal places. Use $\pi = 3.14$ and $\sqrt{3} = 1.73$.

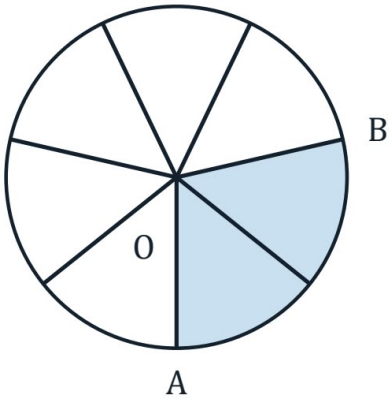


12. A wire 54 cm long forms the entire boundary of a sector of radius 10.5 cm. Find the arc length, angle and area of the sector.

SECTION D

(Application Based Question - 3 marks)

13. A pizza of radius 28 cm is cut into seven equal slices. Two adjacent slices are shaded in the diagram.



(i) Find the angle of one slice.

(ii) Find the area of one slice.

(iii) Find the total shaded area.