

CHAPTER-11 | Areas Related to Circles

QUIZ-01

1. The region enclosed between two radii and the arc is called :

- A. Segment B. Triangle
C. Sector D. Diameter (C)

Explanation : A sector is the region enclosed by two radii and the corresponding arc.

2. If the central angle is 90° , and radius is 7 cm, what is the area of the sector?

- A. 38.5 cm^2 B. 77 cm^2
C. 154 cm^2 D. 19.25 cm^2 (A)

Explanation :

$$(90/360) \times \pi \times r^2 = 1/4 \times (22/7) \times 49 = 38.5 \text{ cm}^2$$

3. Area of a segment =

- A. Area of triangle – sector
B. Sector + triangle
C. Area of sector – triangle
D. Area of circle – chord (C)

Explanation : Segment = Area of sector – Area of triangle

4. What is the formula for the arc length of a sector?

- A. $(\theta/180) \times \pi r$ B. $(\theta/360) \times 2\pi r$
C. $(\theta/180) \times 2\pi r$ D. πr^2 (B)

Explanation : Arc length = $(\theta/360) \times 2\pi r$

5. Radius = 14 cm and angle = 60° , arc length = ?

- A. 14.66 cm B. 7.33 cm
C. 5.5 cm D. 4.66 cm (A)

Explanation : Arc = $(60/360) \times 2\pi \times 14 = 14.66 \text{ cm}$

6. What is the correct unit for area of a sector?

- A. cm B. cm^2
C. m D. degrees (B)

Explanation : Area is always measured in square units.

7. A quadrant is what part of a circle?

- A. One-half B. One-third
C. One-fourth D. Full circle (C)

Explanation : A quadrant is one-fourth of a circle;
angle = 90°

8. Area of a sector =

- A. $(\theta/360) \times 2\pi r$ B. $(\theta/360) \times \pi r^2$
C. πr^2 D. $2\pi r$ (B)

Explanation : Direct formula: $(\theta/360) \times \pi r^2$

9. Angle at the center of a full circle is:

- A. 180° B. 360°
C. 270° D. 90° (B)

Explanation : Total angle in a circle = 360°

10. Which value of π is mostly used in this chapter?

- A. 3.12 B. 3.14
C. 3.00 D. 3.16 (B)

Explanation : π is taken as 3.14 for approximations unless stated otherwise.