

Chapter - 12

Areas Related to Circles

(Assertion and Reasoning Questions)

In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
- (c) Assertion (A) is true but reason (R) is false.
- (d) Assertion (A) is false but reason (R) is true.

Q.1. Assertion (A): In a circle of radius 6 cm, the angle of a sector is 60° . Then the area of the sector is $132/7 \text{ cm}^2$.

Reason (R): Area of the circle with radius r is πr^2 .

Q.2. Assertion (A): If the circumference of a circle is 176 cm, then its radius is 28 cm.

Reason (R): Circumference = $2\pi \times \text{radius}$.

Q.3. Assertion (A): If the outer and inner diameter of a circular path is 10 m and 6 m respectively, then area of the path is $16\pi \text{ m}^2$.

Reason (R): If R and r be the radius of outer and inner circular path respectively, then area of circular path = $\pi(R^2 - r^2)$.

Q.4. Assertion (A): The length of the minute hand of a clock is 7 cm. Then the area swept by the minute hand in 5 minute is $77/6 \text{ cm}^2$.

Reason (R): The length of an arc of a sector of angle q and radius r is given by

$$l = \frac{\theta}{360^\circ} \times 2\pi r$$

-X-X-X-

ANSWER KEY

Q.1 : (b)

Q.2 : (a)

Q.3 : (a)

Q.4 : (b)