

- (a) r^2 (b) $\frac{1}{2}r^2$ (c) $2r^2$ (d) $\sqrt{2}r^2$

19. In a circle of radius 21 cm, an arc subtends an angle of 60° at the centre. The length of the arc is:
 (a) 20cm (b) 21cm (c) 22cm (d) 25cm
20. In a circle of radius 21 cm, an arc subtends an angle of 60° at the centre. The area of the sector formed by the arc is:
 (a) 200 cm^2 (b) 220 cm^2 (c) 231 cm^2 (d) 250 cm^2
21. Area of a sector of angle p (in degrees) of a circle with radius R is
 (a) $p/180 \times 2\pi R$ (b) $p/180 \times \pi R^2$ (c) $p/360 \times 2\pi R$ (d) $p/720 \times 2\pi R^2$
22. The wheel of a motorcycle is of radius 35 cm. The number of revolutions per minute must the wheel make so as to keep a speed of 66 km/hr will be
 (a) 50 (b) 100 (c) 500 (d) 1000
23. The area of a quadrant of a circle with circumference of 22 cm is
 (a) 77 cm^2 (b) $77/8 \text{ cm}^2$ (c) 35.5 cm^2 (d) $77/2 \text{ cm}^2$
24. In a circle of radius 14 cm, an arc subtends an angle of 30° at the centre, the length of the arc is
 (a) 44 cm (b) 28 cm (c) 11 cm (d) $22/3$ cm
25. If the length of an arc of a circle of radius r is equal to that of an arc of a circle of radius $2r$, then
 (A) the angle of the corresponding sector of the first circle is double the angle of the corresponding sector of the other circle.
 (B) the angle of the corresponding sector of the first circle is equal the angle of the corresponding sector of the other circle.
 (C) the angle of the corresponding sector of the first circle is half the angle of the corresponding sector of the other circle.
 (D) the angle of the corresponding sector of the first circle is 4 times the angle of the corresponding sector of the other circle.
26. A cow is tied with a rope of length 14 m at the corner of a rectangular field of dimensions $20\text{m} \times 16\text{m}$, then the area of the field in which the cow can graze is:
 (A) 154 m^2 (B) 156 m^2 (C) 158 m^2 (D) 160 m^2
27. Perimeter of a sector of a circle whose central angle is 90° and radius 7 cm is
 (a) 35 cm (b) 25 cm (c) 77 cm (d) none of these
28. In a circle of diameter 42 cm, if an arc subtends an angle of 60° at the centre, where $\pi = 22/7$ then length of arc is
 (a) 11 cm (b) 227 cm (c) 22 cm (d) 44 cm
29. If the perimeter of a semicircular protractor is 72 cm where $\pi = 22/7$, then the diameter of protractor is
 (a) 14 cm (b) 33 cm (c) 28 cm (d) 42 cm
30. If the radius of a circle is doubled, its area becomes
 (a) 2 times (b) 4 times (c) 8 times (d) 16 times
31. If the diameter of a semicircular protractor is 14 cm, then its perimeter is :
 (a) 27 cm (b) 36 cm (c) 18 cm (d) 9 cm
32. A race track is in the form of a circular ring whose outer and inner circumferences are 396 m and 352 m respectively. The width of the track is
 (a) 63 m (b) 56 m (c) 7 m (d) 3.5 m
33. The area of the largest square that can be inscribed in a circle of radius 12 cm is
 (a) 24 cm^2 (b) 249 cm^2 (c) 288 cm^2 (d) $196\sqrt{2} \text{ cm}^2$
34. If the perimeter of a circle is equal to that of a square, then the ratio of their areas is:
 (a) 22 : 7 (b) 14 : 11 (c) 7 : 22 (d) 11 : 14
35. The circumference of two concentric circles forming a ring are 88 cm and 66 cm. Taking $\pi = 22/7$, the width of the ring is
 (a) 14 cm (b) 7 cm (c) $7/2$ cm (d) 21 cm
36. A steel wire when bent in the form of a square encloses an area of 121 cm^2 . If the same wire is bent in the form of a circle, then the circumference of the circle is:
 (a) 88 cm (b) 44 cm (c) 22 cm (d) 11 cm
37. The length of the minute hand of a clock is 14 cm. The area swept by the minute hand in 5 minutes is:
 (a) 153.9 cm^2 (b) 102.6 cm^2 (c) 51.3 cm^2 (d) 205.2 cm^2
38. If the area of a circle is numerically equal to twice its circumference, then the diameter of the circle is:
 (a) 4 units (b) 2 units (c) 8 units (d) none of these

39. Match the columns:

1. Area of quadrant	(A) $\frac{1}{2}\pi r^2$
2. Area of equilateral triangle	(B) $\frac{\sqrt{3}}{4} \times \text{side}^2$
3. Area of semicircle	(C) $\frac{\sqrt{3}}{2} \text{side}^2$
4. Perimeter of semicircle	(D) $\frac{1}{4}\pi r^2$
	(E) πr
	(F) $\pi r + 2r$

(a) 1 → A, 2 → C, 3 → D, 4 → E

(b) 1 → B, 2 → C, 3 → F, 4 → E

(c) 1 → D, 2 → B, 3 → A, 4 → F

(d) 1 → D, 2 → B, 3 → E, 4 → F