INDIAN SCHOOL AL WADI AL KABIR

Class X - Mathematics (2026-27)

Worksheet – Areas related to Circles 11-11-2026

Questions of 1 mark each

Q.1. Area of a segment of a circle of radius 'r' and central angle 60° is

A	$\frac{\pi r^2}{2} - \frac{1}{2}r^2$	B	$\frac{2\pi r}{4} - \frac{\sqrt{3}}{4}r^2$	C	$\frac{\pi r^2}{6} - \frac{\sqrt{3}}{4}r^2$	D	$\frac{2\pi r}{4} - r^2 \sin 60°$

Q.2. If the length of an arc of a circle subtending an angle 60° at its centre is 22 cm, then the radius of the circle is

A	$\sqrt{21}$ cm	B	21 cm	C	$\sqrt{42}$ cm	D	42 cm

Q.3. The radius of a circle whose circumference is equal to the sum of the circumferences of the two circles of diameters 36 cm and 20 cm is

A	56 cm	B	28 cm	C	16 cm	D	18 cm

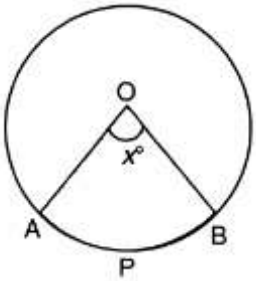
Q.4. If the perimeter and the area of a circle are numerically equal, then the radius of the circle is

A	11 units	B	4 units	C	7 units	D	2 units

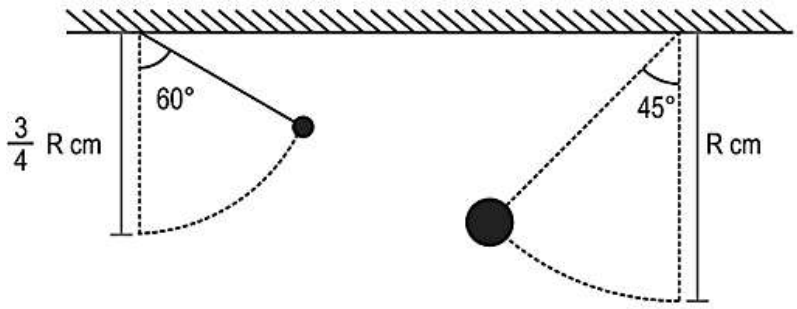
Q.5. The number of revolutions made by a circular wheel of radius 0.7m in rolling a distance of 176m is

A	22	B	40	C	75	D	24

Q.6. In given fig, O is the centre of a circle. If the area of the sector OAPB is $\frac{5}{36}$ times the area of the circle, then the value of x is



A	70°	B	60°	C	50°	D	80°

Q.7.	The hour-hand of a clock is 6 cm long. The angle swept by it between 7:20 a.m. and 7:55 a.m. is							
	A	$\left(\frac{35}{4}\right)^0$	B	$\left(\frac{35}{2}\right)^0$	C	35°	D	70°
Q.8.	The area of the square that can be inscribed in a circle of 10 cm radius is							
	A	200 cm^2	B	128 cm^2	C	$64\sqrt{2}\ cm^2$	D	64 cm^2
Q.9.	The area of a circle that can be inscribed in a square of side 6 cm is							
	A	36π cm^2	B	18π cm^2	C	12π cm^2	D	9π cm^2
Q.10.	If the perimeter of a semicircular protractor is 72 cm where $\pi = \frac{22}{7}$, then the diameter of the protractor is							
	A	14 cm	B	10 cm	C	28 cm	D	22 cm
Q.11.	The circumferences of two circles are in the ratio 4: 5. Then the ratio of their radii is							
	A	16: 25	B	25: 16	C	2: $\sqrt{5}$	D	4: 5
Q.12.	The diameter of a circle whose area is equal to the sum of the areas of the two circles of radii 24 cm and 7 cm is							
	A	25 cm	B	50 cm	C	31 cm	D	17 cm
Q.13.	Shown below are two pendulums of different lengths attached to a bar.  **Pendulum 1** **Pendulum 2** Based on the figure shown above, the length of arc of pendulum 1 is _____ the length of arc of pendulum 2.							
	A	greater than	B	less than	C	equal to	D	cannot say without knowing the value of R.

ASSERTION AND REASONING	
	DIRECTION: In question numbers 11, a statement of **Assertion (A)** is followed by a statement of **Reason (R).** Choose the correct option. (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 and 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.14.	Assertion(A): If a wire of length 22 cm is bent in the shape of a circle, then area of the circle so formed is 40 cm^2 Reason(R): Circumference of the circle = length of the wire.
Q.15.	Assertion(A): If the outer and inner diameter of a circular path is 10 m and 6 m then area of the path is 16π m^2. Reason(R): If R and r be the radius of outer and inner circular path, then area of path is $\pi(R^2 - r^2)$.

ANSWERS												
Q.1	C	**Q.2**	B	**Q.3**	B	**Q.4**	D	**Q.5**	B	**Q.6**	C	**Q.7**	B
Q.8	A	**Q.9**	D	**Q.10**	C	**Q.11**	D	**Q.12**	B	**Q.13**	C	**Q.14**	d
Q.15.	a												