RK VISION ACADEMY

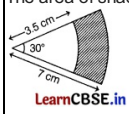
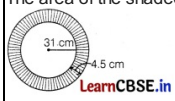
NEET | IIT – JEE | FOUNDATION

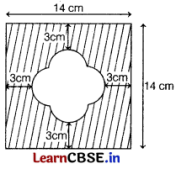
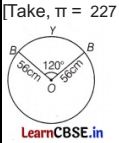
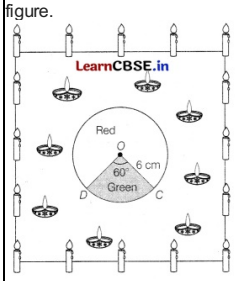
CBSE PRACTICE PAPER(2024)

(Mathematics)

Grade : X Marks: 40 marks

Chapter: MENSURATION SET-1 Time: 90 minutes

SECTION A (This section comprises of Multiple-choice questions (MCQ) of 1 mark each.)				
1.	If the perimeter and the area of a circle are numerically equal, then the radius of the circle is			
	(a) 2 units	(b) n units	(c) 4 units	(d) 7 units
2.	It is proposed to build a single circular park equal in area to the stun of areas of two circular parks of diameters 16 m and 12 m in a locality. The radius of the new park is			
	(a) 10 m	(b) 15 m	(c) 20 m	(d) 24 m
3.	There is a green square board of side '2 a' unit circumscribing a red circle. Jayadev is asked to keep a dot on the above said board. Then, the probability that he keeps the dot on the green region is			
	(a) π/ 4	(b) 4 − π/ 4	(c) π − 4/4	(d) 4/ π
4.	The area of shaded portion is  LearnCBSE.in			
	(a) 9.625 cm²	(b) 6.925 cm²	(c) 9 cm²	(d) 6 cm²
5.	The area of the shaded portion is  LearnCBSE.in			
	(a) 940.5 cm²	(b) 930.5 cm²	(c) 400.5 cm²	(d) 510.5 cm²
6.	The difference between the circumference and radius of a circle is 37 cm. The area of the circle is			
	(a) 111 cm²	(b) 111 cm²	(c) 154 cm²	(d) 259 cm²
7.	The circumference of a circle is equal to the sum of the circumferences of two circles having diameters 34 cm and 28 cm. The radius of the new circle is			
	(a) 30 cm	(b) 31cm	(c) 32 cm	(d) 25 cm
8.	In a circle of radius 21 cm, an arc subtends an angle of 60° at the centre, then the length of the arc is			
	(a) 22 cm	(b) 20 cm	(c) 21cm	(d) 19 cm
9.	The area swept by the minute hand of a clock of length 15 cm in 10 min is			
	(a) 75/2 ττ cm 2	(b) 2/75 ττ cm 2	(c) 75/4 ττ cm 2	(d) 75/6 ττ cm 2
	Assertion (A) If the outer and inner diameter of a circular path is 10 m and 6 m, then			

10.	area of the path is 16 π m 2 . Reason (R) If R and r be the radius of outer and inner circular path respectively, then area of path = π(R 2 − r 2).			
	(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
SECTION B (This section comprises of very short answer type-questions (VSA) of 2 marks each)				
11.	With vertices A, B and C of ΔABC as centres, arcs are drawn with radii 14 cm and the three portions of the triangle, so obtained are removed. Find the total area removed from the triangle.		(C) None of these	(D) Statement wrong
12.	Find the area of the unshaded region shown in the given figure.  			
13.	The length of the minute hand of a clock is 14 cm. Find the area swept by the minute hand in 5 min.			
SECTION C (This section comprises of short answer type questions (SA) of 3 marks each)				
14.	Find the area of sector OAYB and area of triangle AOB shown in figure, if radius of the circle is 56 cm and ∠ AOB = 120 ° . [Take, π = 227]  			
15.	The short and long hands of a clock are 6 cm and 8 cm long, respectively. Then, find the sum of the distance travelled by their tips in 1 day.			
16.	The radius of the wheel of a bus is 25 cm. If the speed of the bus is 33 km/h, then how many revolutions will the wheel make in 1 min?			
SECTION D (This section comprises of long answer-type questions (LA) of 5 marks each)				
17.	Diwali Celebration On a Diwali occassion , colourful rangoli is formed by using different colours, diya , candles and light etc. On this occassion , we fire out the crackers and eat sweets etc. Riya made a rangoli using two different colours red and green as shown in the figure.  Based on the above information, answer the following questions (i) Find the area of rangoli covered by both red and green colours. (1)			

	(ii) Find the area of rangoli covered by green colour only. (2) (iii) Find the length of are CD of green colour. (1) (i v) If the cost of colour used in the rangoli is ₹ 1 per cm 2 , then find the total cost of colour used in the rangoli. (1)
18.	A calf is tied with a rope of length 6 m at the corner of a square grassy lawn of side 20 m. If the length of the rope is increased by 5.5m, find the increase in area of the grassy lawn in which the calf can graze.
19.	Find the difference of the areas of two segments of a circle formed by a chord of length 5 cm subtending an angle of 90° at the centre.