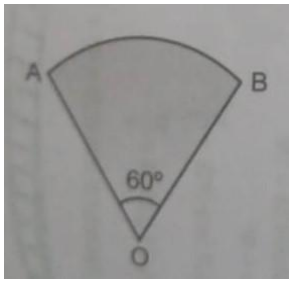
INTERNATIONAL INDIAN SCHOOL BURAIDAH
MATHS-WORK SHEET-2026-27
CLASS X
CH:12-Areas Related to the Circle

MCQ:

1If the difference between the circumference and the radius of a circle is 37 cm , then using $\pi = \frac{22}{7}$, the radius of the circle (in cm) is :

(a) 154 cm (b) 14 cm (c) 44 cm (d) 7 cm

2-In the given figure AOB is a sector of circle of radius 10.5 cm .Find the perimeter of the sector



: $\pi = \frac{22}{7}$

(a) 32 cm (b) 11 cm (c) 21 cm (d) 35 cm

3-The Area of the sector of a circle of radius 6 cm whose central angle is $30^0\ is\ (take\ \pi = 3.14)$:

(a) 9.42 cm^2 (b) 8.42 cm^2 (c) 7.42 cm^2 d) 9.44 cm^2

4-The Area of semicircle of diameter 'd' ?

(a) $\frac{1}{16}\pi d^2$ (b) $\frac{1}{8}\pi d^2$ (c) $\frac{1}{4}\pi d^2$ (d) $\frac{1}{2}\pi d^2$

Type equation here.

5- If the circumference and the area of a circle are numerically equal ,then diameter of the circle is :

(a) $\frac{r}{2}$ (b) 2 (c) 2π (d) 4

6-The diameter of the driving wheel of a bus is 140 cm . How many revolutions per minute must the wheel make in order to keep a speed of 66 kmph ?

(a) 200 (b) 250 (c) 240 (d) 260

7- A wheel makes 1000 revolutions in covering a distance of 88 km .Find the radius of the wheel

(a) 11 m (b) 12 m (c) 14 m (d) 10 m

8-The inner circumference of a circular race track , 14 m wide is 440 m . Find the radius of the outer circle :

(a) 85 m (b) 80 m (c) 82 m (d) 84 m

9-If the radius of a circle is increased by 75% then it circumference will increase by :

(a) 25% (b) 75% (c) 50% (d) 100%

10-If the radius of a circle is doubled ,its area is increased by :

(a) 100% (b) 300% (c) 200% (d) 400%

11-A pendulum swings through an angle of 30^0 and describes an arc 6.6 cm in length ,then the length of pendulum is

(a) 12.6 cm (b) 5 cm (c) 10.6 cm (d) 10 cm

12-If the area of a semicircular region is 308 sq cm , then its perimeter is ……

(a) 27 cm (b) 80 cm (c) 75 cm (d) 72 cm

<u>Assertion -Reason Questions</u>

The following questions consist of two statements -Assertion (A) and Reason(R) .Answer these questions selecting the appropriate option given below :

(a) Both A and R true and R is the correct explanation for A.

(b) Both A and R are true but R is not the correct explanation for A

(c) A is true but R is false.

(d) A is false but R is true .

1-**Assertion :** Sector is the region between the chord and its corresponding arc .

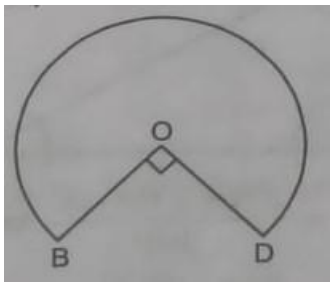
Reason: To define an arc we need at least 3 points

2-**Assertion** : The Area enclosed by a chord and the major arc is major segment .

Reason: If a circle is divided into three equal arcs ,then each is a major arc.

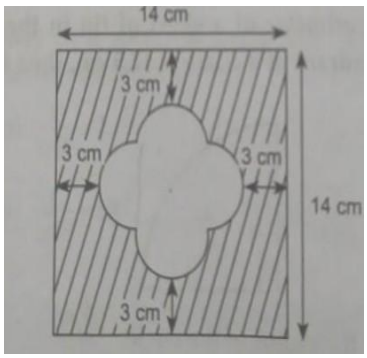
<u>Subjective Type Question :</u>

1-In the given figure , the top of a table in a restaurant is that of a segment of a circle with centre O and $\angle BOD = 90^0$, BO=OD=60 cm , then find the area of the top of the table.(Use= $\pi = 3.14$)



2-With vertices A , B and C of triangle ABC 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 .

3-Find the area of the unshaded region shown in the given figure .



4-The length of the minute hand of a clock is 14 cm .Find the area swept by the minute hand in 5 minutes .

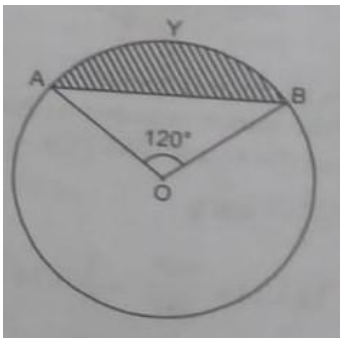
5-In a circle of radius 21 cm , an arc subtends an angle of 60^0 at the centre . Find (i) the length of the arc , and (ii) area of the sector formed by the arc .

6-A chord of a circle of radius 10 cm subtends a right angle at the centre .Find the area of the corresponding minor segment and hence find the area of the major segment. (use $\pi = 3.14$)

7-Find the area of the minor segment of a circle of radius 5 cm formed by a chord subtending

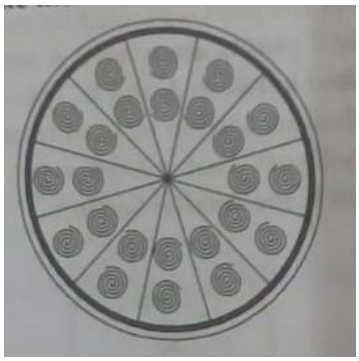
An angle of 90^0 at the centre. Also find the area of the corresponding major segment.

8-Find the Area of the segment shown in fig. if radius of the circle is 21 cm and $\angle AOB = 120^0$



9-A circular pend is a of diameter 17.5 m .It is surrounded by a 2 m wide path . Find the cost of constructing the path at the rate of Rs 25 per square metre.

10-A wheel is made for school project with silver wire in the form of circle as shown in the figure .the diameter of the circle is 42 mm .The cost of each mm of silver wire is Rs 30 .the wire is also used in making 6 diameters which divide the circle into 12 equal sectors .



(i) How much silver wire will be required to make the wheel?

(ii) What is the area of each sector of the wheel

(iii) What will be the cost of silver wire used to make the wheel.

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