doubtnut
India's Number 1 Education App

MATHS

BOOKS - OSWAL PUBLICATION

AREAS RELATED TO CIRCLES

Stand Alone Mcqs

1. If the sum of the areas of two circles with radii R_1 and R_2 is equal to the area of a circle of radius R, then

A. $R_1 + R_2 = R$

B. $R_1^2 + R_2^2 = R^2$

C. $R_1 + R_2 < R$

D. $R_1^2 + R_2^2 < R^2$

Answer: B

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2. If the sum of the circumferences of two circles with radii R_1 and R_2 is equal to the circumference of a circle of radius R, then

A. $R_1 + R_2 = R$

B. $R_1 + R_2 > R$

C. $R_1 + R_2 < R$

D. Nothing definite can be side about the relation among R_1, R_2 and R

Answer: A

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3. The area of the largest triangle that can be inscribed in a semicircle of radius r is :

A. r^2 sq. units

B. $\frac{1}{2}r^2$ sq. units

C. $2r^2$ sq. units

D. $\sqrt{2}r^2$ sq. units

Answer: A

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4. 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. $11:14$

Answer: B

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5. The area of the circle that can be inscribed in a square of side 6 cm is

A. $36\pi cm^2$

B. $18\pi cm^2$

C. $12\pi cm^2$

D. $9\pi cm^2$

Answer: D

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6. 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. 42 cm

C. 28 cm

D. 16 cm

Answer: C

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7. If the peremeter and the area of a circle are numercally equal, then the radius of the circle is:

A. 2 units

B. π units

C. 4 units

D. 7 units

Answer: A

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8. Tick the correct answer in the following: Area of a sector of angle p (in degrees) of a circle with radius R is (A) $(B)(C)(D)\frac{p}{E}((F)180)(G)(H) \times 2\pi R(I)$ (J) (K) `(L) (M) (N) p/(O)((P) 180)(Q) (R)xxpi(S) R^((T)2(U))(V)

A. $\frac{p}{180^\circ \times 2\pi R}$

B. $\frac{p}{180^\circ \times 2\pi R^2}$

C. $\frac{p}{360^\circ} \times 2\pi R$

D. $\frac{p}{720^\circ} \times 2\pi R^2$

Answer: D

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Assertion And Reason Based Mcqs

1. Assertion (A) : In a circle of radius 6 cm, the angle of a sector 60° . Then area of sector is $18\frac{6}{7}cm^2$

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

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true and R is not correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: B

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2. 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 $40cm^2$

Reason (R) : Circumference of the circle = length of the wire

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true and R is not correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: D

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3. Assertion (A) : If circumference of two circles are in the ratio 2 : 3 then ratio area is 4 : 9

Reason (R) : The circumference of a circle is $2\pi r^2$ and its area is πr^2

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true and R is not correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: C

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4. Assertion (A) : If the outer and inner diameter of a circular path is 10 m and 6 m then area of the path is $16\pi m^2$

Reason (R) : If R and r be the radius of outer and inner circular path . Area of circular path = $\pi\left(R^2 - r^2\right)$

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true and R is not correct explanation of A

C. A is true but R is false

D. A is false but R is true

Answer: A

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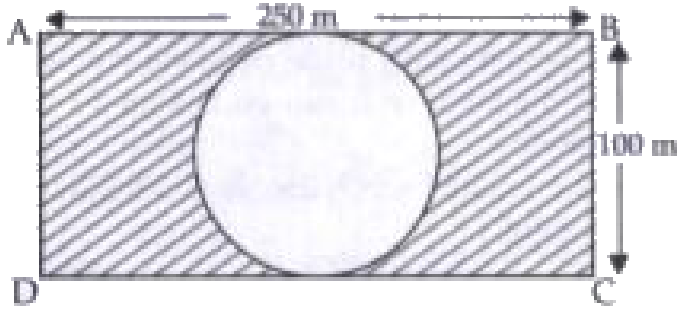
Case Based Mcqs I

1. Read the following text and answer the following questions on the basis of the same :

Rohan went to a cricket stadium which is in

rectangular shape. A circular green ground for playing cricket is inscribed in a rectangular shaped stadium of breadth 100 m and length 250 m



Find the area of rectangular shaped stadium

A. $17500m^2$

B. $25000m^2$

C. $1100m^2$

D. $250m^2$

Answer: B

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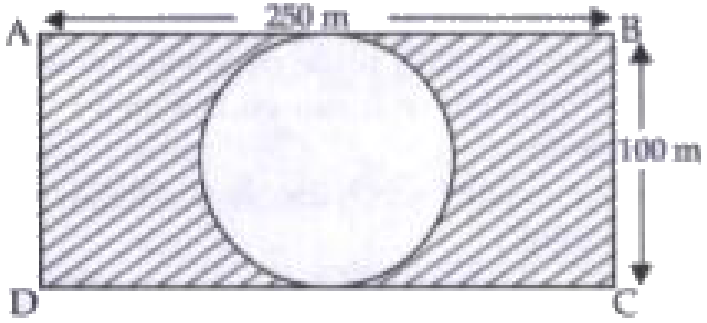
2. Read the following text and answer the following questions on the basis of the same :

Rohan went to a cricket stadium which is in rectangular shape. A circular green ground for playing cricket is inscribed in a rectangular shaped stadium of breadth 100 m and length

250 m



Find the radius of the circular cricket field

A. 100 m

B. 150 m

C. 50 m

D. 200 m

Answer: C

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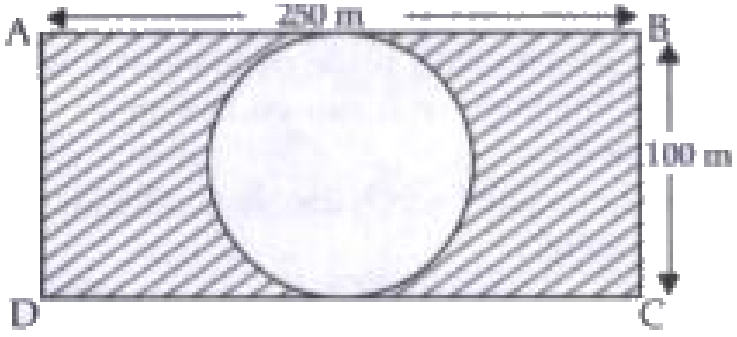
3. Read the following text and answer the following questions on the basis of the same :

Rohan went to a cricket stadium which is in rectangular shape. A circular green ground for playing cricket is inscribed in a rectangular shaped stadium of breadth 100 m and length 250 m



Find the area of circular cricket field $\left(\pi = \frac{22}{7}\right)$

A. $\frac{2500}{7} m^2$

B. $\frac{55000}{7} m^2$

C. $\frac{26200}{7} m^2$

D. $\frac{12500}{7} m^2$

Answer: B

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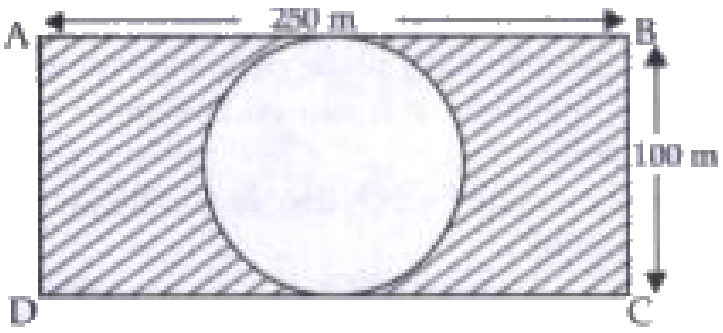
4. Rohan went to a cricket stadium which is in rectangular shape. A circular green ground for playing cricket is inscribed in a rectangular shaped stadium of breadth 100 m and length 250 m



What is the area of the shaded part ?

A. $\frac{115000}{7}m^2$

B. $\frac{13500000}{7}m^2$

C. $\frac{120000}{7}m^2$

D. $\frac{165160}{7}m^2$

Answer: C

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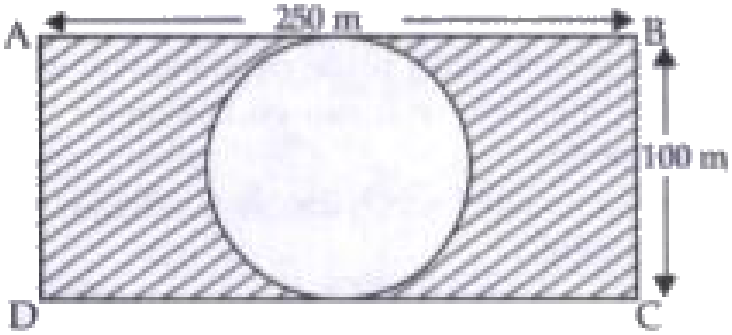
5. Read the following text and answer the following questions on the basis of the same :

Rohan went to a cricket stadium which is in rectangular shape. A circular green ground for playing cricket is inscribed in a rectangular

shaped stadium of breadth 100 m and length 250 m



Find the perimeter of circular cricket field $\left(\pi = \frac{22}{7}\right)$

A. $\frac{25000}{7} m$

B. $\frac{500150}{7} m$

C. $\frac{10000}{7} m$

D. $\frac{2200}{7}$ m

Answer: D

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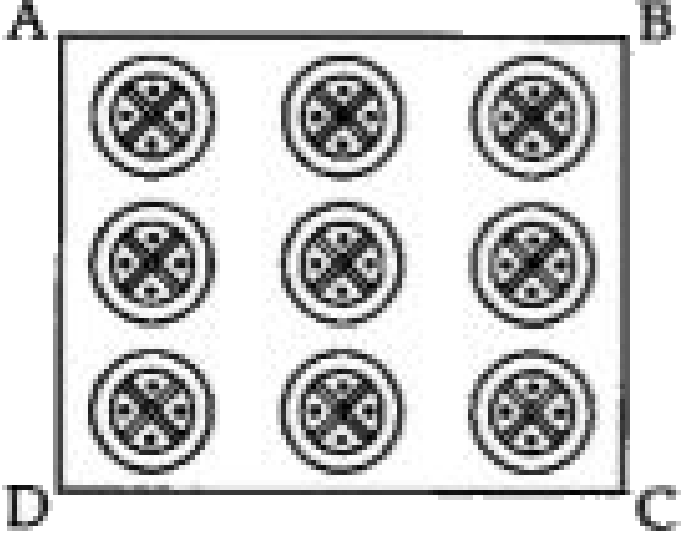
Case Based Mcqs Ii

1. Read the following text and answer the following questions on the basis of the same :

In a school, a Design exam is conducted in class x . Rubina wins 1^{st} prize. She made a square embroidery handkerchief with 9 circular thread designs on it



On a square handkerchief, nine circular designs each of radius 7 cm are made (see in figure) . Find the circumference of one of the circular design

A. 41 cm

B. 41 cm

C. 43 cm

D. 44 cm

Answer: D

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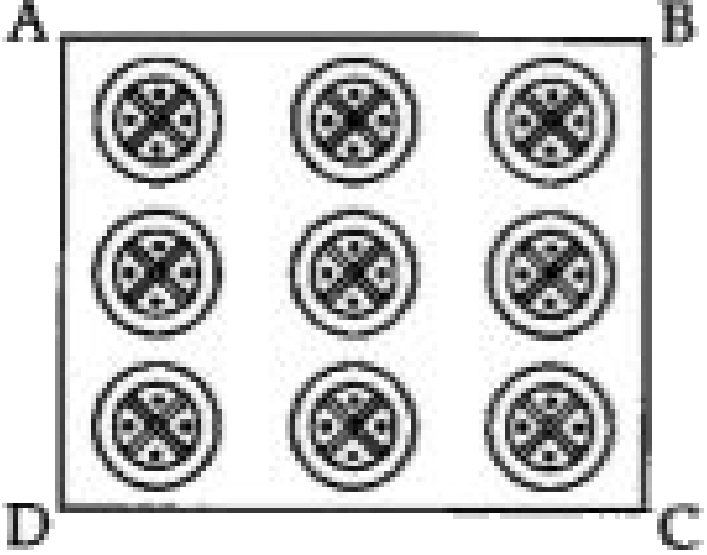
2. Read the following text and answer the following questions on the basis of the same :

In a school, a Design exam is conducted in class x . Rubina wins 1^{st} prize. She made a square embroidery handkerchief with 9 circular thread designs on it



Find the total area of 9 circles if radius of each circle is 7 cm

A. $1380cm^2$

B. $1385cm^2$

C. $1386cm^2$

D. $1384cm^2$

Answer: C

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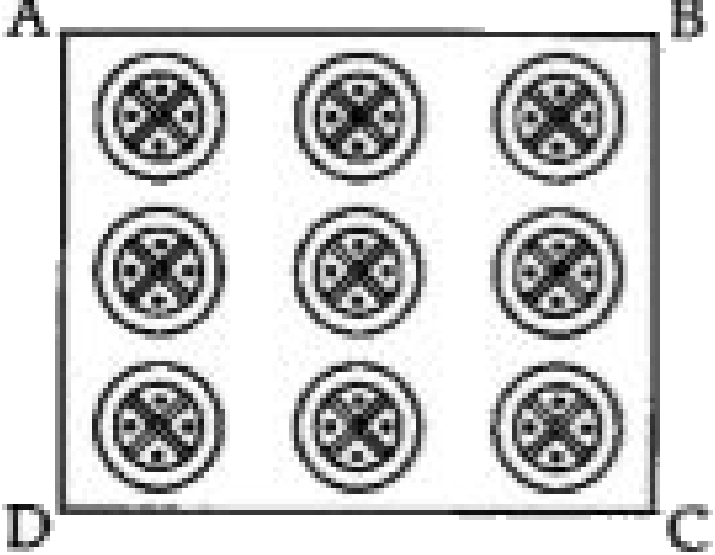
3. Read the following text and answer the following questions on the basis of the same :

In a school, a Design exam is conducted in class x . Rubina wins 1^{st} prize. She made a square embroidery handkerchief with 9 circular thread designs on it



The area of circle having radius 'r' is equal to

A. πr^2

B. πr^3

C. $2\pi r^2$

D. $3\pi r^2$

Answer: A

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4. If radius of circle if 4r, the area of circle is equal to :

A. 50. $20r^2$ sq. units

B. 50. $28r^2$ sq. units

C. 51. $24r^2$ sq. units

D. 52. $24r^2$ sq. units

Answer: B

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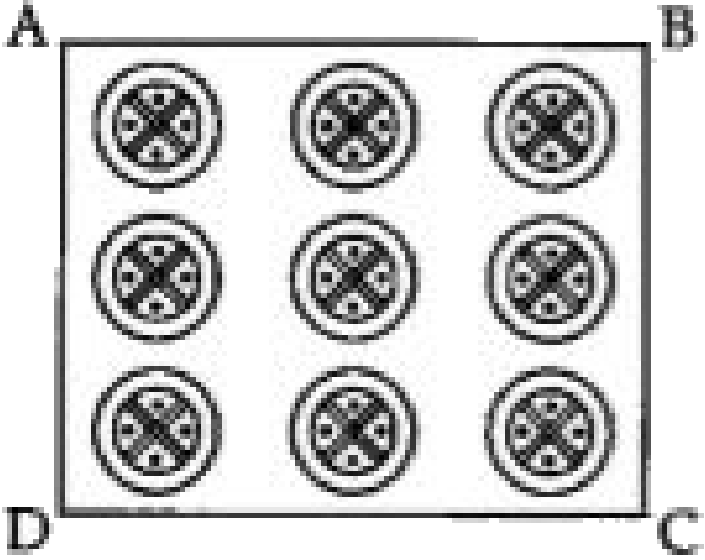
5. Read the following text and answer the following questions on the basis of the same :

In a school, a Design exam is conducted in class x . Rubina wins 1^{st} prize. She made a square embroidery handkerchief with 9 circular thread designs on it



Area of square having side 'a' is equal to

A. 4a

B. a^2

C. 2a

D. 3a

Answer: B

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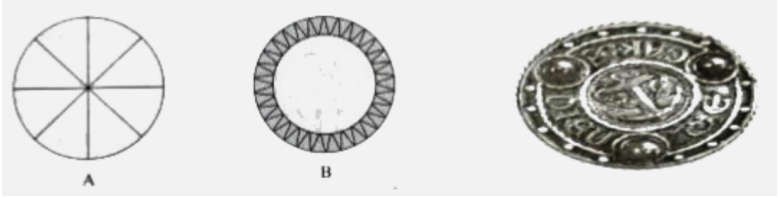
Case Based Mcqs Iii

1. A brooch is a small piece of jewellery which has a pin at the back so it can be fastened on a dress, blouse or coat.Designs of some brooch are shown below. Observe them carefully.



Design A: Brooch A is made with silver wire in the form of a circle with diameter 28mm. The wire used for making 4 diameters which divide the circle into 8 equal parts.

Design B: Brooch b is made two colours_ Gold and silver. Outer part is made with Gold. The circumference of silver part is 44mm and the gold part is 3mm wide everywhere.

Refer to Design A

The total length of silver wire required is

A. 180 mm

B. 200 mm

C. 250 mm

D. 280 mm

Answer: B

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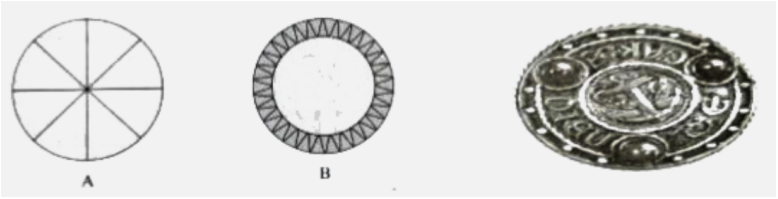
2. A brooch is a small piece of jewellery which has a pin at the back so it can be fastened on a dress, blouse or coat.Designs of some

brooch are shown below. Observe them carefully.



Design A: Brooch A is made with silver wire in the form of a circle with diameter 28mm. The wire used for making 4 diameters which divide the circle into 8 equal parts.

Design B: Brooch b is made two colours_ Gold and silver. Outer part is made with Gold. The circumference of silver part is 44mm and the gold part is 3mm wide everywhere.

Refer to Design A

The area of each sector of the brooch is

A. $44mm^2$

B. $77mm^2$

C. $52mm^2$

D. $68mm^2$

Answer: B

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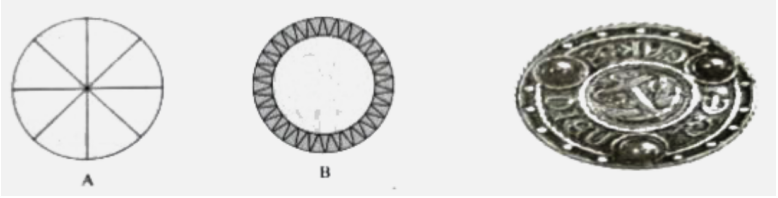
3. A brooch is a small piece of jewellery which has a pin at the back so it can be fastened on a dress, blouse or coat.Designs of some brooch are shown below. Observe them carefully.



Design A: Brooch A is made with silver wire in the form of a circle with diameter 28mm. The wire used for making 4 diameters which divide the circle into 8 equal parts.

Design B: Brooch b is made two colours_ Gold

and silver. Outer part is made with Gold. The circumference of silver part is 44mm and the gold part is 3mm wide everywhere.

Refer to Design B

The circumference of outer part (golden) is

A. 48.49 m m

B. 82.2 m m

C. 72.50 m m

D. 62.86 m m

Answer: D

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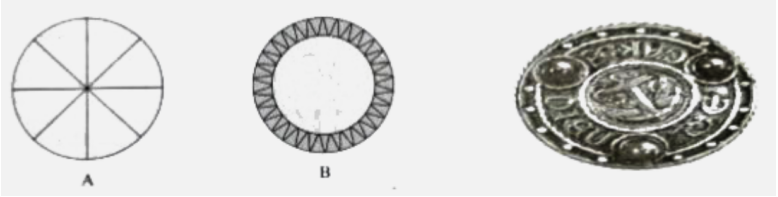
Watch Video Solution

4. A brooch is a small piece of jewellery which has a pin at the back so it can be fastened on a dress, blouse or coat.Designs of some brooch are shown below. Observe them carefully.



Design A: Brooch A is made with silver wire in the form of a circle with diameter 28mm. The wire used for making 4 diameters which divide

the circle into 8 equal parts.

Design B: Brooch b is made two colours_ Gold and silver. Outer part is made with Gold. The circumference of silver part is 44mm and the gold part is 3mm wide everywhere.

Refer to Design B

The difference of areas of golden and silver parts is

A. 18π

B. 44π

C. 51π

D. 64π

Answer: C

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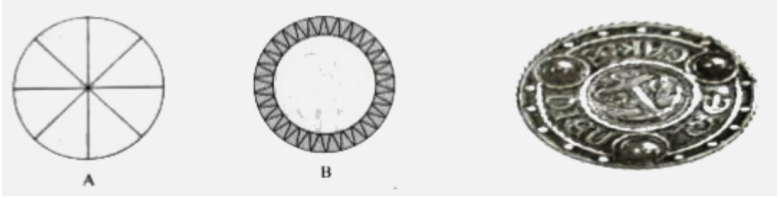
5. A brooch is a small piece of jewellery which has a pin at the back so it can be fastened on a dress, blouse or coat.Designs of some brooch are shown below. Observe them carefully.



Design A: Brooch A is made with silver wire in the form of a circle with diameter 28mm. The wire used for making 4 diameters which divide the circle into 8 equal parts.

Design B: Brooch b is made two colours_ Gold and silver. Outer part is made with Gold. The circumference of silver part is 44mm and the gold part is 3mm wide everywhere.

Refer to Design B

A boy is playing with brooch B. He makes revolution with it along its edge. How many

complete revolutions must it take to cover 80π mm ?

A. 2

B. 4

C. 3

D. 5

Answer: B

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Example

1. Find the area of the minor segment of a circle of radius 28 cm, when the angle of the corresponding sector is 45°.

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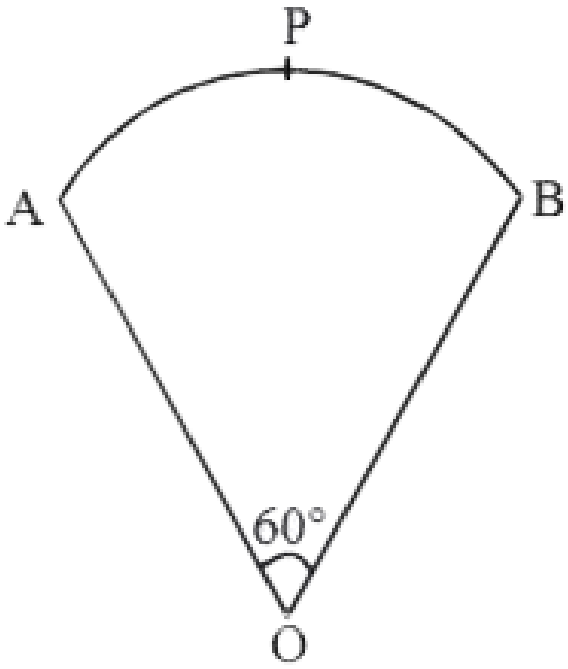
Self Assessment 1 I Objectiue Type Questions A Multiple Choice Questions

1. In fig. OAPBO is a sector of a circle of radius 10.5 cm. Find the perimeter of the sector.



A. 32 cm

B. 23 cm

C. 33 cm

D. 21 cm.

Answer:

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2. If the radius of a circle is doubled, its area is increased by (a) 100% (b) 200% (c) 300% (d) 400%

A. Same as the first circle

B. 2 times the area of the first circle

C. 3 times the area of the first circle

D. 4 times the area of the first circle.

Answer:

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Self Assessment 1 I Objectiue Type Questions B Fill In The Blanks

1. The radius of a circle is 7 cm. Find its area

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2. Find the circumference of a circle whose radius is

(i) 28 cm

(ii) 10.5 cm

(iii) 3.5 cm.

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3. If diameter of semi-circle is 7 cm then perimeter of semi circle is ..... .

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Self Assessment 1 I Objectiue Type Questions C Very Short Answer Type Questions

1. If area of quadrant of a circled is $38.5cm^2$ then find its diameter (use $\pi = \frac{22}{7}$)

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2. What is the perimeter of the sector with radius 21 cm and sector angle 60^o ?

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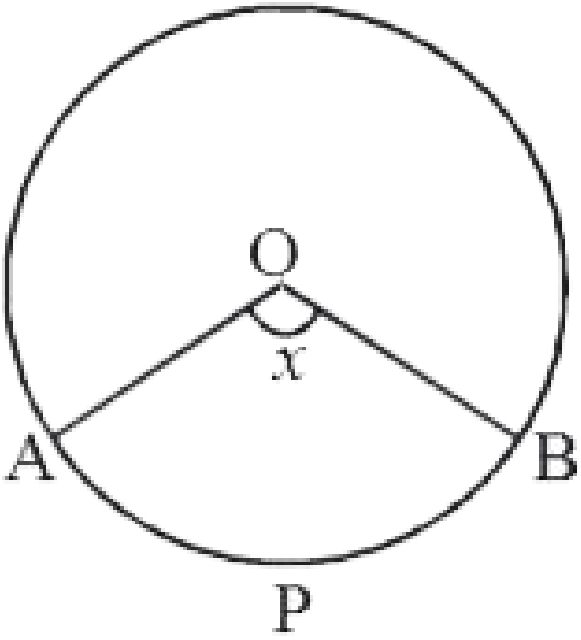
3. In fig., O is the centre of a circle. The area of sector OAPB is $\frac{5}{18}$ of the area of the circle. Find x.



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Self Assessment 1 Ii Short Answer Type Questions I

1. If the perimeter of a protractor is 72 cm, calculate its area. (use $\pi = \frac{22}{7}$)

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2. A chord of a circle of radius $10cm$ subtends a right angle at the centre. The area of the minor segments (given $\pi = 3.14$) is

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3. The length of the minute hand of a clock is 14 cm. Find the area swept by the minute hand from 9 a.m. to 9.35 a.m.

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Self Assessment 1 Iii Short Answer Type Questions Ii

1. Find the area of the minor segment of a circle of radius 42 cm, if length of the

corresponding arc is 44 cm.

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2. The side of a square is 10 cm. Find the area between inscribed and circumscribed circles of the square.

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3. The short and long hands of a clock are 4cm and 6cm long respectively. Find the sum of

distances travelled by their tips in 2 days. $\left(Take \pi \frac{22}{7}\right)$

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Self Assessment 1 Iv Long Answer Type Questions

1. A copper wire is bent in the form of an equilateral triangle and has area $121\sqrt{3}cm^2$. IF the same wire is bent into the form of a circle, the area (in cm^2) enclosed by the wire is (Take $\pi = \frac{22}{7}$)

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2. A park is of the shape of a circle of diameter 7 m. It is surrounded by a path of width of 0.7 m. Find the expenditure of cementing the path. If its cost is Rs. 110 per sq. m.

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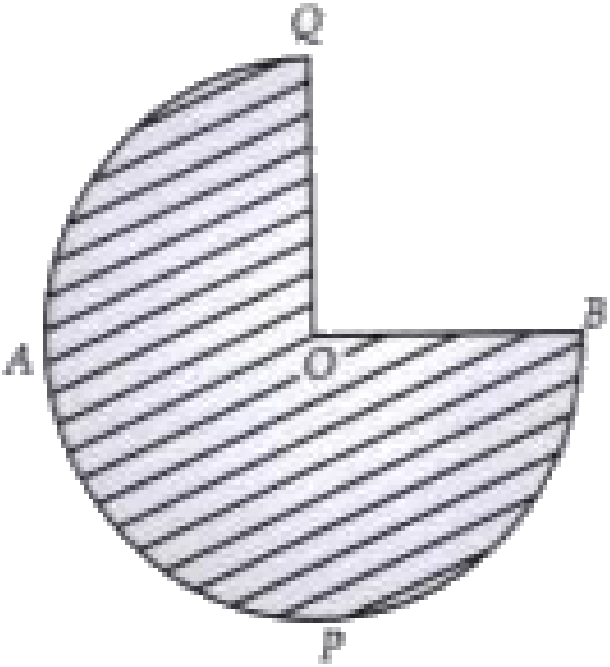
3. In fig., APB and AQP are semi-circles, and AO = OB. If the perimeter of the figure is 47 cm,

find the area of the shaded region. (Use $\pi = \frac{22}{7}$)



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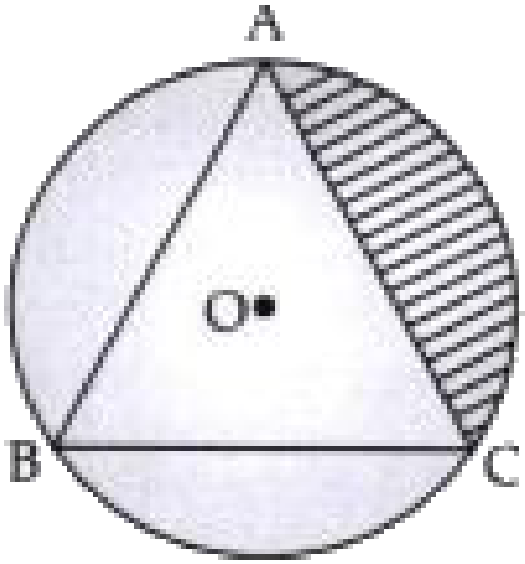
Self Assessment 2 I Objectiue Type Questions A Multiple Choice Questions

1. In the given figure, ABC is an equilateral triangle inscribed in a circle of radius 4 cm with centre O, then the area of the shaded region is :



A. $\frac{5}{3}\left(5\pi - 3\sqrt{3}\right)cm^2$

B. $\frac{4}{3}\left(4\pi - 3\sqrt{3}\right)\ \ \text{cm}^2$

C. $\frac{2}{3}(2\pi - \sqrt{3})$ cm^2

D. $\frac{7}{3}(7\pi - 3\sqrt{3})$ cm^2

Answer: B

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2. If the circumferences of two concentric circles forming a ring are 88 cm and 66 cm respectively, then the width of the ring is :

A. 14 cm

B. 10.5 cm

C. 3.5 cm

D. 22 cm

Answer: C

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Self Assessment 2 I Objectiue Type Questions B Fill In The Blanks

1. The area of the circle that can be inscribed in a square of side 7 cm is ..... .

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2. If R is outer radius and r is inner radius, then area of ring is ..... .

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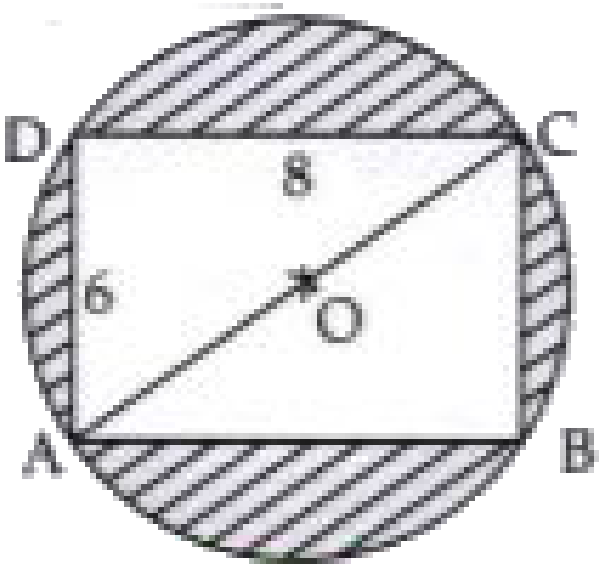
3. Two coins of diameter 2 cm and 4 cm respectively are kept one over the other as shown in the figure the area of the shaded ring shaped region is ___ square cm.



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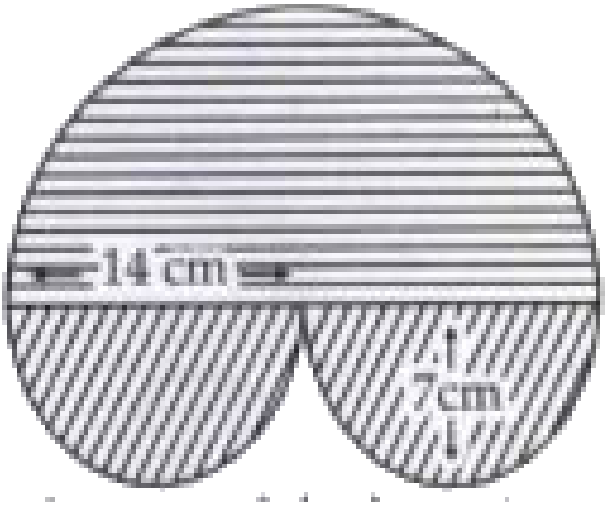
Self Assessment 2 I Objectiue Type Questions C Very Short Answer Type Questions

1. In the given figure, the area of shaded region is _____ .



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2. What is the area of the largest square that can be inscribed in a circle of radius 12 cm. ?

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

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Self Assessment 2 Ii Short Answer Type Questions I

1. A paper is in the form of a rectangle ABCD in which AB = 20 cm and BC = 14 cm. A semicircular portion with BC as diameter is cut off. Find the area of the remaining part. (use $\pi = \frac{22}{7}$)

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2. Two circular pieces of equal rad.ii and maximum areas, touching each other are cut out from a rectangular cardboard of dimensions 14 cm $\times$ 7 cm. Find the area of the remaining cardboard. (use $\pi = \frac{22}{7}$)

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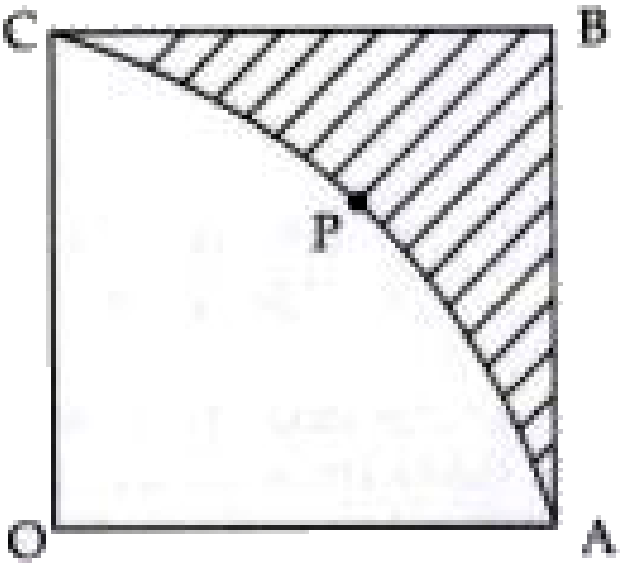
3. In the given figure, OABC is a square of side 7 cm. If OAPC is a quadrant of a circle with centre O, then find the area of the shaded

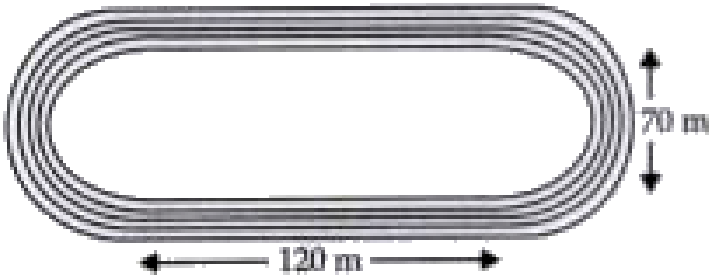
region.



Watch Video Solution

Self Assessment 2 Iii Short Answer Type Questions Ii

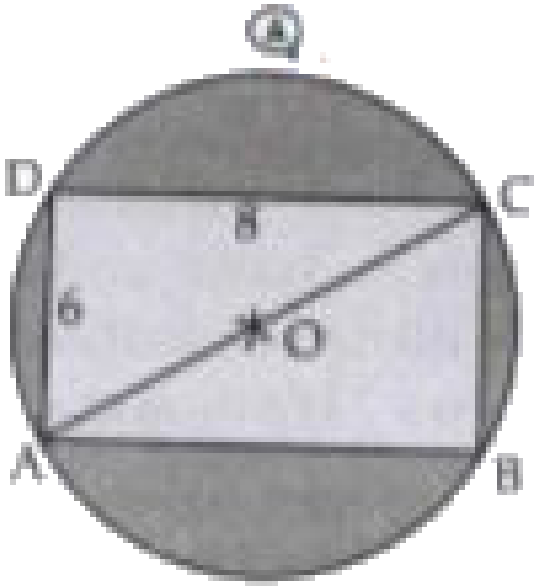
1. Following figure depicts a park where two opposite sides are parallel and left and right ends are semi-circular in shape. It has a 7 m wide track for walking.



Two friends Seema and Meena went to the park. Meena said that area of the track is 4066 m^2. Is she right? Explain.

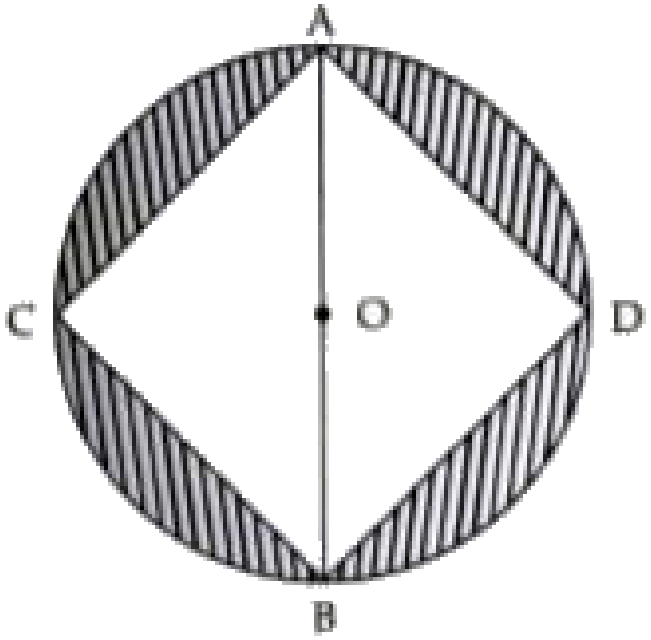
Watch Video Solution

2. Find the area of the shaded region in given figure if ABCD is a rectangle with sides 8 cm and 6 cm and O is centre of circle. [Take $\pi = 3.14$]



Watch Video Solution

3. Find the area of the shaded region in the given figure, if BC = BD = 8 cm, AC = AD = 15 cm and O is the centre of the circle.



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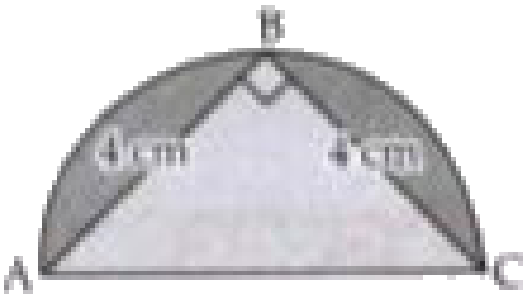
Self Assessment 2 Iv Long Answer Type Questions I

1. In the figure, ΔABC is in the semi-circle, find the area of the shaded region given that AB = BC = 4 cm. (use $\pi = 3.14$)



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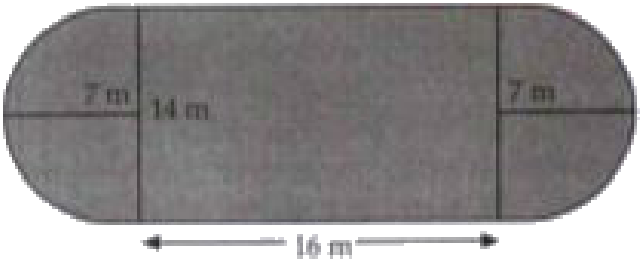
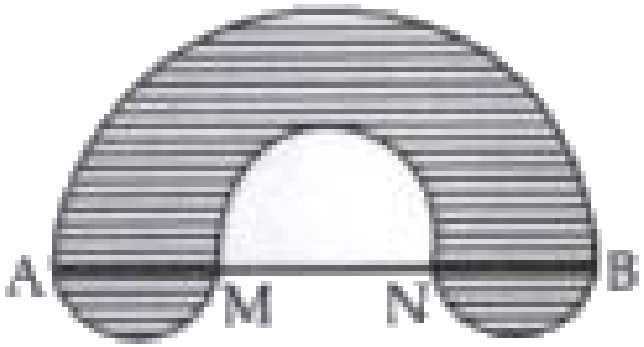
2. Find the area of the adjoining diagram.



Watch Video Solution

3. In the given figure, AB is the diameter of the largest semi-circle. AB = 21 cm, AM = MN = NB. Semi-circles are drawn with AM, MN and NB as shown. Using $\pi = \frac{22}{7}$, calculate the area of

the shaded region.

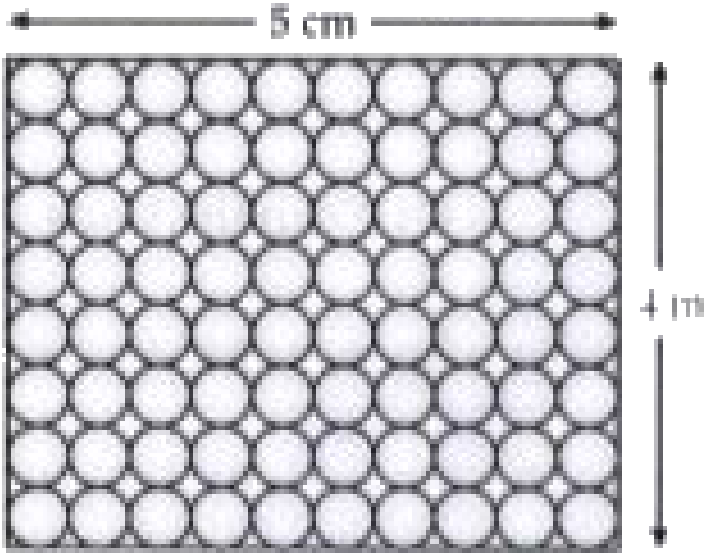


Watch Video Solution

Self Assessment 2 Vi Case Study Based Questions

1. Floor of a room is of dimensions $5m \times 4m$ and it is covered with circular tiles of

dimensions 50 cm each as shown in given figure.



Find the radius of each circular tile having diameters 50 cm.

A. 1 m

B. 0.75 m

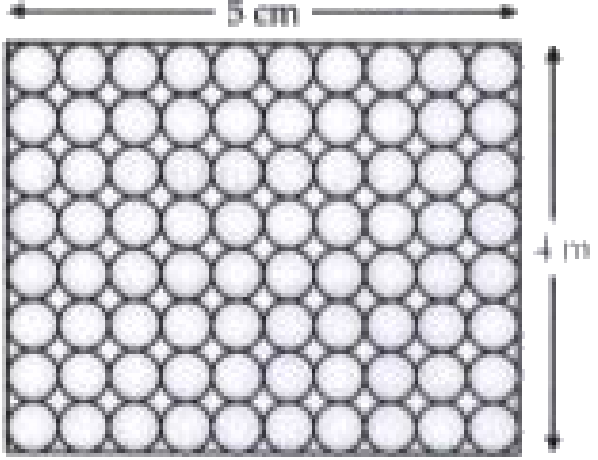
C. 0.50 m

D. 0.25 m

Answer:

Watch Video Solution

2. Floor of a room is of dimensions $5m \times 4m$ and it is covered with circular tiles of dimensions 50 cm each as shown in given figure.



Find the area of rectangle having dimensions

5 m $\times$ 4 m.

A. $17.5 \ \ \mathrm{m}^2$

B. $15 \ \ \mathrm{m}^2$

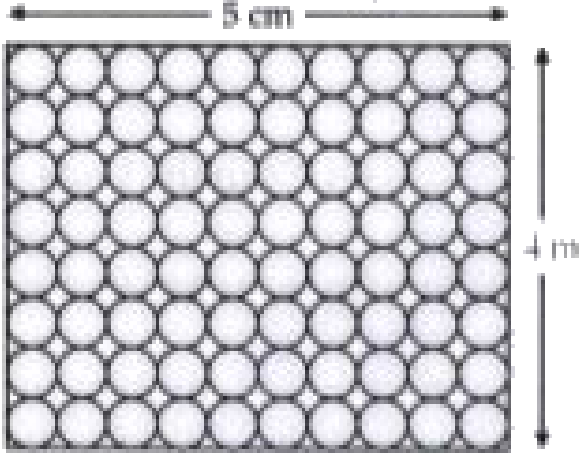
C. $21 \ \ \mathrm{m}^2$

D. $20 \ \ \mathrm{m}^2$

Answer:

Watch Video Solution

3. Floor of a room is of dimensions $5m \times 4m$ and it is covered with circular tiles of dimensions 50 cm each as shown in given figure.



Find the area of each circular tiles.

A. $0.15 \quad \mathrm{m}^2$

B. $0.251 \quad \mathrm{m}^2$

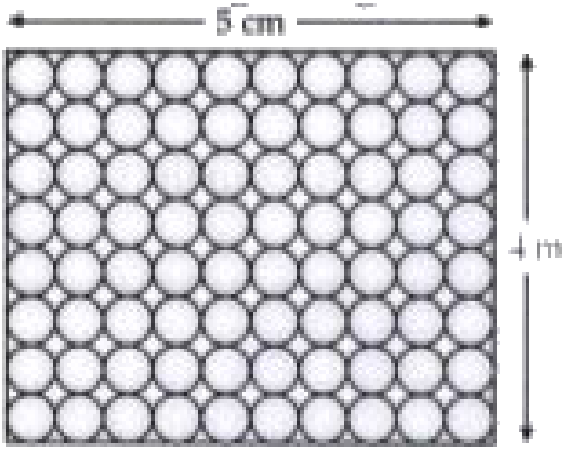
C. $0.196 \quad \mathrm{m}^2$

D. $1.80 \quad \mathrm{m}^2$

Answer:

Watch Video Solution

4. Floor of a room is of dimensions $5m \times 4m$ and it is covered with circular tiles of dimensions 50 cm each as shown in given figure.



Find the area of floor that remains uncovered with tiles :

A. $4.32 \ \mathrm{m}^2$

B. $1.85 \ \mathrm{m}^2$

C. $3.73 \ \mathrm{m}^2$

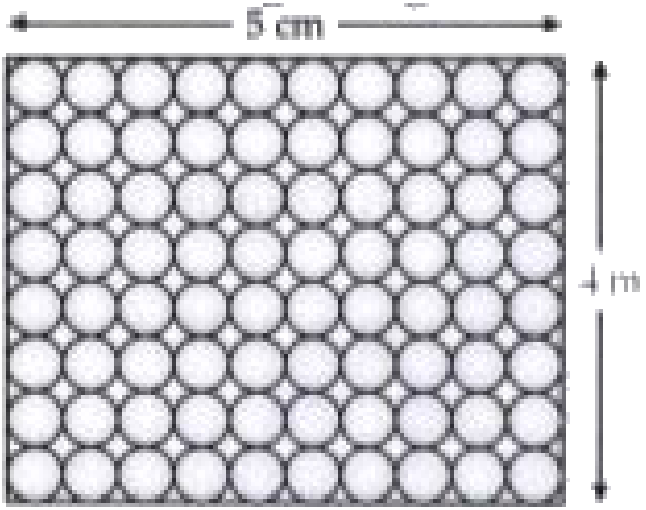
D. $2.87 \ \mathrm{m}^2$

Answer:

Watch Video Solution

5. Floor of a room is of dimensions $5m \times 4m$ and it is covered with circular tiles of dimensions 50 cm each as shown in given

figure.



A line segment joining the centre and a point on the circle is called its ..... .

A. diameter

B. radius

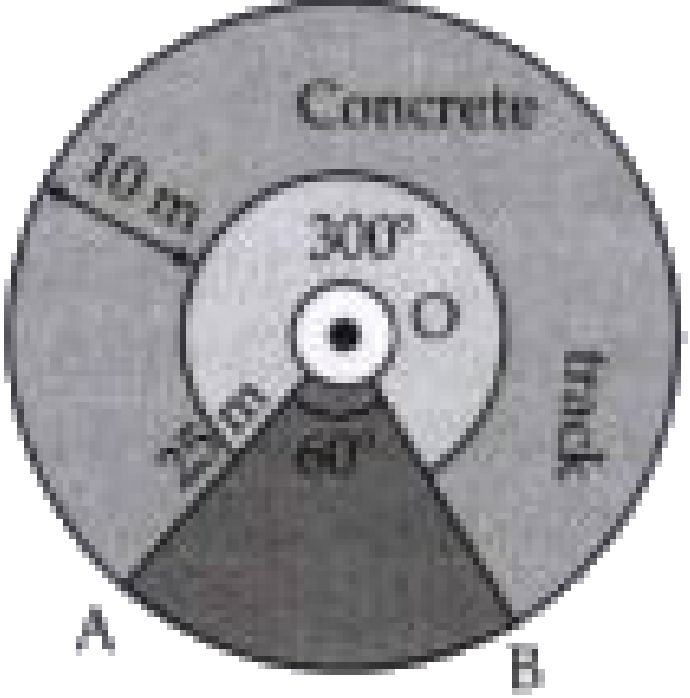
C. chord

D. arc

Answer: B

Watch Video Solution

6. In a given figure, AOB is a flower bed in a shape of a sector of a circle of radius 25 m and $\angle AOB = 60^\circ$. Also a 10 m wide concrete track is made as shown in the figure, flower bed is made at the rate of Rs. $3\mathrm{m}^2$ and concrete track is made up of rate Rs. 25 m^2.



Find the circumference of the circle having radius 25m.

A. 158 m

B. 157.14 m

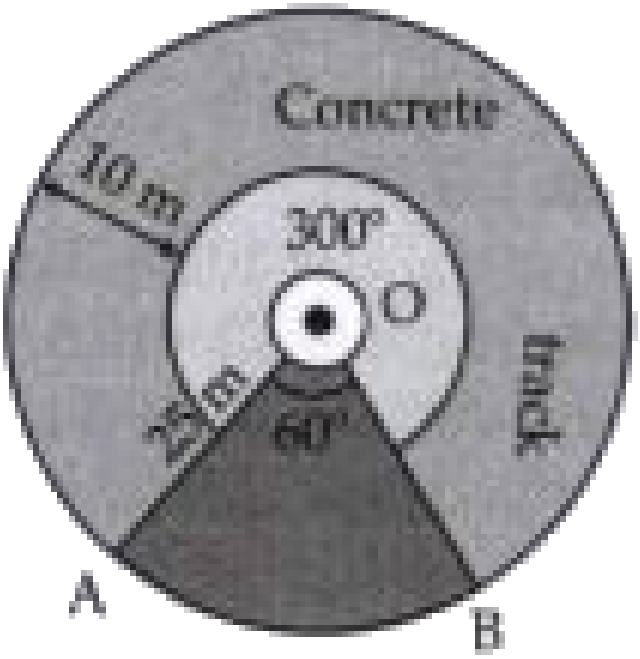
C. 156.21 m

D. 155.28 m

Answer: B

Watch Video Solution

7. In a given figure, AOB is a flower bed in a shape of a sector of a circle of radius 25 m and $\angle AOB = 60^\circ$. Also a 10 m wide concrete track is made as shown in the figure, flower bed is made at the rate of Rs. $3\mathrm{m}^2$ and concrete track is made up of rate Rs. 25 m^2.



Find the area of the sector AOB.

A. $326.5 \ \ \mathrm{m}^2$

B. $327.90 \ \ \mathrm{m}^2$

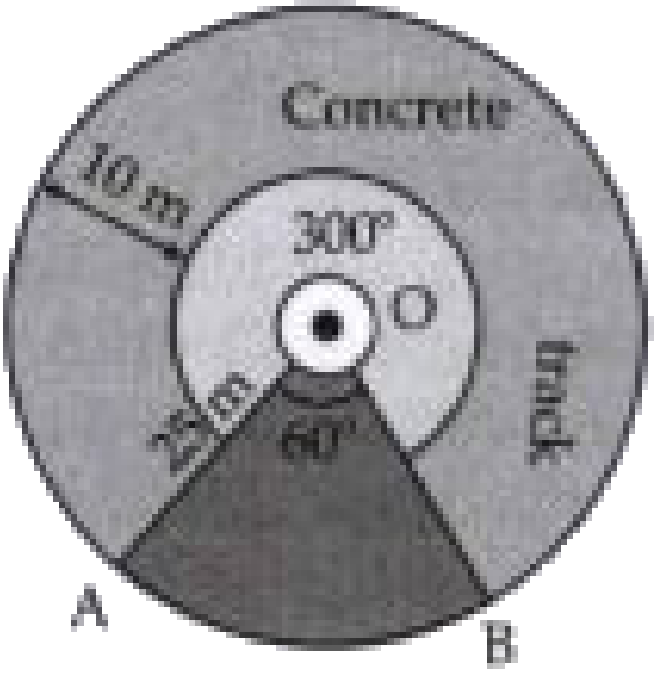
C. $327.38 \ \ \mathrm{m}^2$

D. $325.56 \ \ \mathrm{m}^2$

Answer:

Watch Video Solution

8. In a given figure, AOB is a flower bed in a shape of a sector of a circle of radius 25 m and $\angle AOB = 60^\circ$. Also a 10 m wide concrete track is made as shown in the figure, flower bed is made at the rate of Rs. $3/\mathrm{m}^2$ and concrete track is made up of rate Rs. 25 $/\mathrm{m}^2$.



The amount spent for making the flower bed is

:

A. Rs. 982.14

B. Rs. 928.14

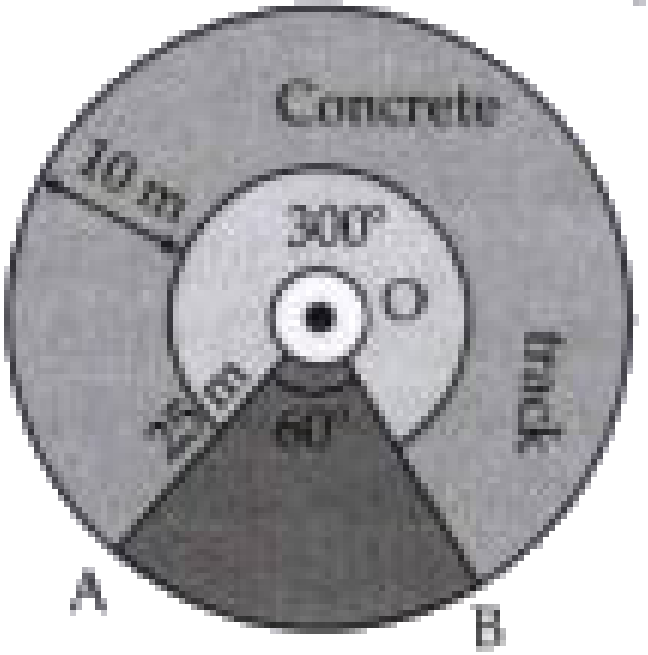
C. Rs. 924.18

D. Rs. 948.12

Answer:

Watch Video Solution

9. In a given figure, AOB is a flower bed in a shape of a sector of a circle of radius 25 m and $\angle AOB = 60^\circ$. Also a 10 m wide concrete track is made as shown in the figure, flower bed is made at the rate of Rs. $3\mathrm{m}^2$ and concrete track is made up of rate Rs. 25 m^2.



Find the area of concrete track.

A. $1027.61 \ \ \mathrm{m}^2$

B. $1740.4 \ \ \mathrm{m}^2$

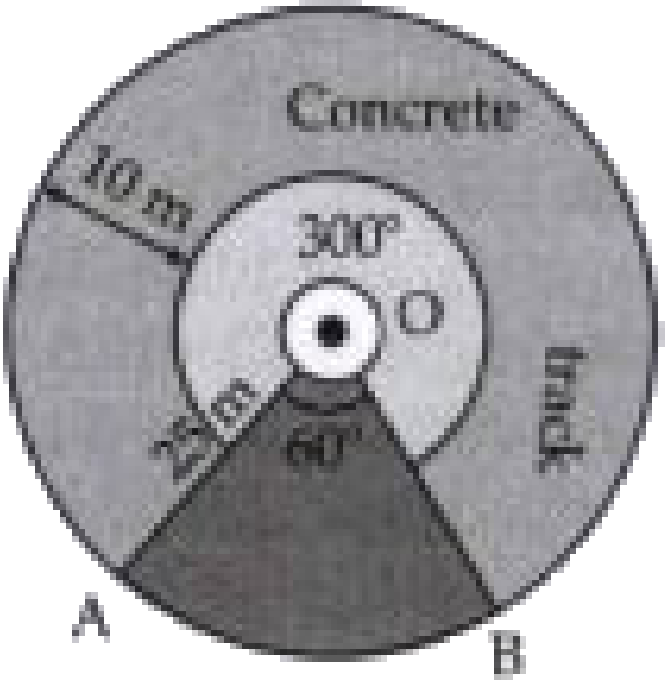
C. $1046.67 \ \ \mathrm{m}^2$

D. $1774.16 \ \ \mathrm{m}^2$

Answer:

Watch Video Solution

10. In a given figure, AOB is a flower bed in a shape of a sector of a circle of radius 25 m and $\angle AOB = 60^\circ$. Also a 10 m wide concrete track is made as shown in the figure, flower bed is made at the rate of Rs. $3\mathrm{m}^2$ and concrete track is made up of rate Rs. 25 m^2.



The amount spent for making the concrete track is:

A. Rs. 25190.5

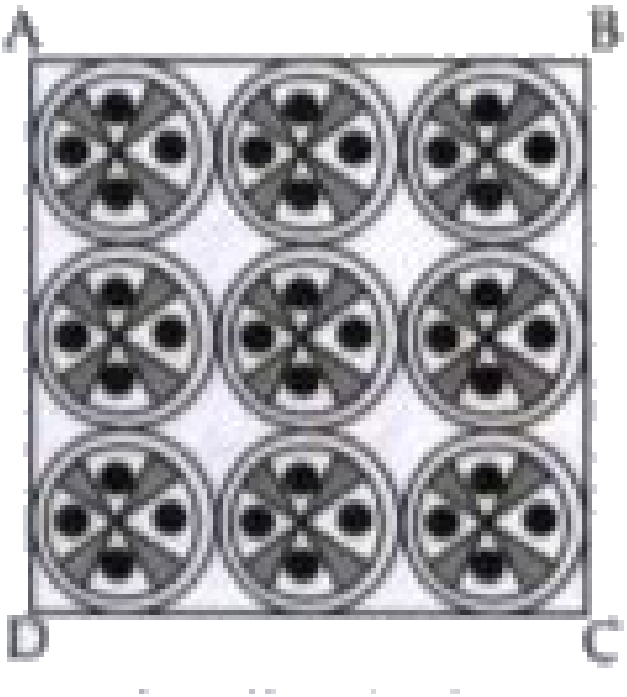
B. Rs. 26166.75

C. Rs. 26190.25

D. Rs. 24190.25

Answer:

11. In a school, an SUPW exam is conducted in class X. Rubina wins 1st prize. She made a square embroider handkerchief with 9 circular thread designs on it.



On a square handkerchief, nine circular designs each of radius 7 cm are made (see in figure). Find the circumference of one of the circular design.

A. 41 cm

B. 42 cm

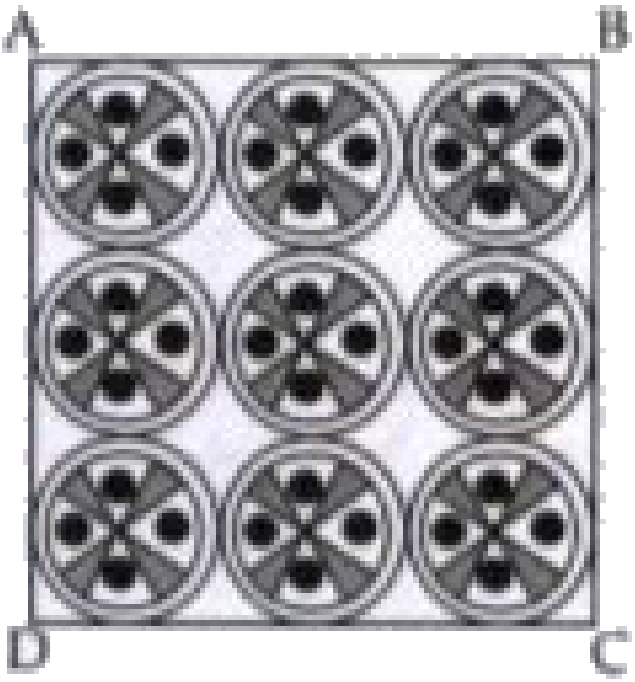
C. 43 cm

D. 44 cm

Answer:

Watch Video Solution

12. In a school, an SUPW exam is conducted in class X. Rubina wins 1st prize. She made a square embroider handkerchief with 9 circular thread designs on it.



Find the total area of 9 circles if radius of each circle is 7 cm.

A. $1380 \quad \mathrm{cm}^2$

B. $1385 \quad \mathrm{cm}^2$

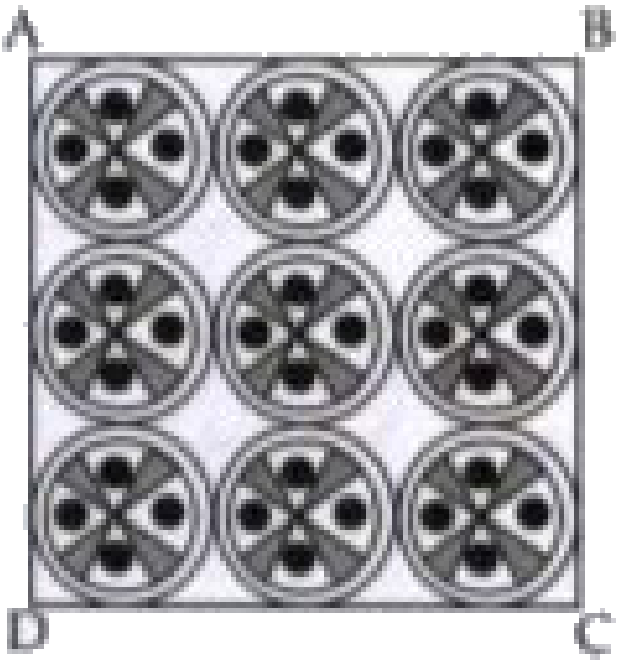
C. $1386 \quad \mathrm{cm}^2$

D. $1384 \quad \mathrm{cm}^2$

Answer:

Watch Video Solution

13. In a school, an SUPW exam is conducted in class X. Rubina wins 1st prize. She made a square embroider handkerchief with 9 circular thread designs on it.



The area of circle having 'r' radius is equal to :

A. πr^2

B. πr^3

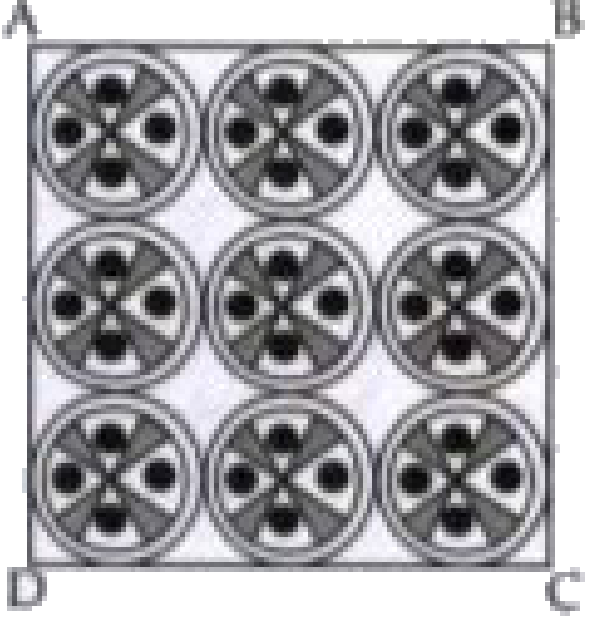
C. $2\pi r^3$

D. $3\pi r^2$

Answer:

Watch Video Solution

14. In a school, an SUPW exam is conducted in class X. Rubina wins 1st prize. She made a square embroider handkerchief with 9 circular thread designs on it.



If radius of circle is 4r, the area of circle is equal to :

A. $50.20r^2$ sq. units

B. $58.28r^2$ sq. units

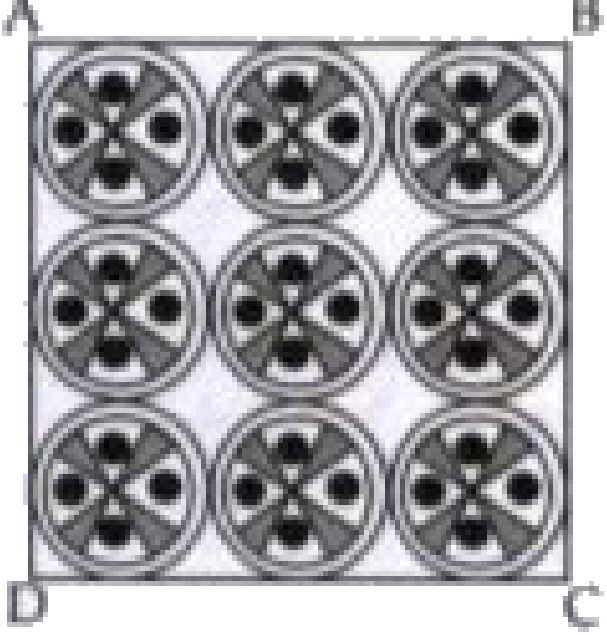
C. $51.24r^2$ sq. units

D. $52.24r^2$ sq. units.

Answer:

Watch Video Solution

15. In a school, an SUPW exam is conducted in class X. Rubina wins 1st prize. She made a square embroider handkerchief with 9 circular thread designs on it.



Area of square is equal to :

A. 4a

B. a^2

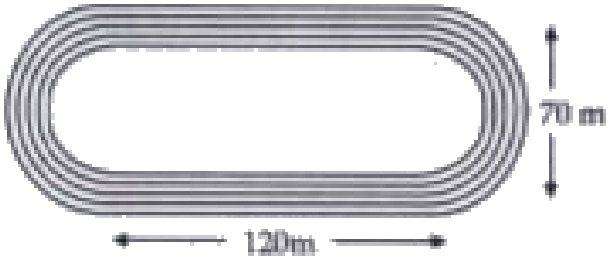
C. 2a

D. 3a

Answer: B

Watch Video Solution

16. Following figure depicts a park where two opposite sides are parallel and left and right ends are semi-circular in shape. It has a 7 m wide track for walking. Two friends Seema and Meena went to the park.



What is the area of inner rectangular portuon

?

A. $6720 \quad \mathrm{m}^2$

B. $6027 \quad \mathrm{m}^2$

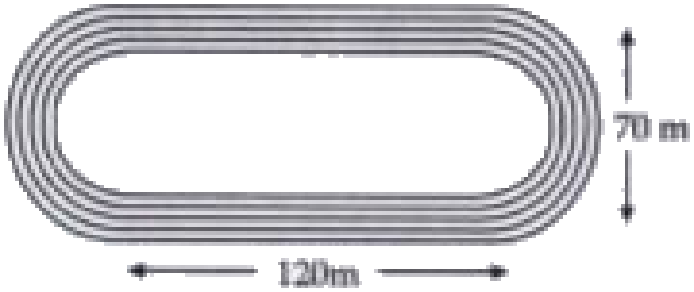
C. $6270 \quad \mathrm{m}^2$

D. $6207 \quad \mathrm{m}^2$

Answer:

Watch Video Solution

17. Following figure depicts a park where two opposite sides are parallel and left and right ends are semi-circular in shape. It has a 7 m wide track for walking. Two friends Seema and Meena went to the park.



Find the area of outer semi-circular portion.

A. $1950 \ \mathrm{m}^2$

B. $1920 \ \mathrm{m}^2$

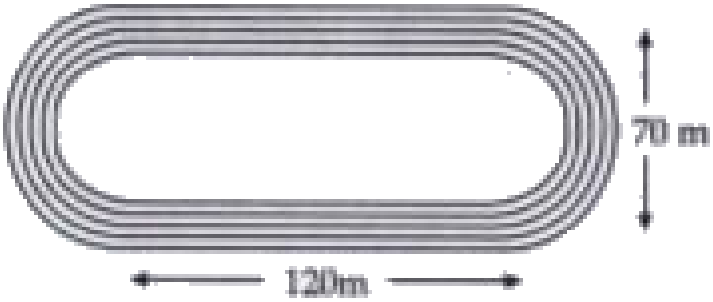
C. $1925 \quad \mathrm{m}^2$

D. $1955 \quad \mathrm{m}^2$

Answer:

Watch Video Solution

18. Following figure depicts a park where two opposite sides are parallel and left and right ends are semi-circular in shape. It has a 7 m wide track for walking. Two friends Seema and Meena went to the park.



Find the area of inner semi-circular portion.

A. $1200 \quad \mathrm{m}^2$

B. $1230 \quad \mathrm{m}^2$

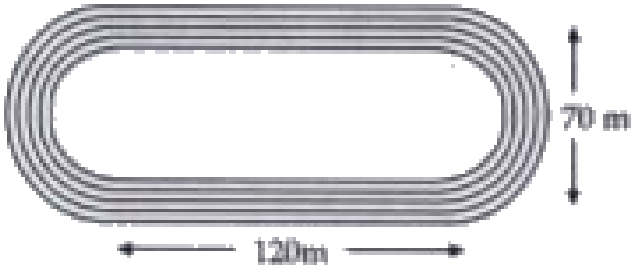
C. $1232 \quad \mathrm{m}^2$

D. $1223 \quad \mathrm{m}^2$

Answer:

Watch Video Solution

19. Following figure depicts a park where two opposite sides are parallel and left and right ends are semi-circular in shape. It has a 7 m wide track for walking. Two friends Seema and Meena went to the park.



Find the area of track.

A. $3066 \ \mathrm{m}^2$

B. $3600 \ \mathrm{m}^2$

C. $3006 \quad \mathrm{m}^2$

D. $3060 \quad \mathrm{m}^2$

Answer:

Watch Video Solution

Ncert Corner Textbook Questions Exercise 12 1

1. The radii of two circles are 19 cm and 9 cm respectively. Find the radius of the circle which

has circumference equal to the sum of the circumferences of the two circles.

Watch Video Solution

2. The radii of two circles are 8 cm and 6 cm respectively. Find the diameter of the circle having area equal to the sum of the areas of the two circles.

Watch Video Solution

3. Fig. 15.6, depicts an archery target marked with its five scoring areas from the centre outwards as Gold, Red, Blue Black and white. The diameter of the region representing Gold score is 21 cm and each of the other bands is 10.5 cm wide. Find the area of each of the five scoring regions.

Watch Video Solution

4. The wheels of a car are of diameter 80 cm each. How many complete revolutions does each wheel make in 10 minutes when the car is travelling at a speed of 66 km per hour?

Watch Video Solution

5. If the perimeter and the area of a circle are numerically equal, then the diameter of the circle is

A. 2 units

B. π units

C. 4 units

D. 7 units

Answer: c

Watch Video Solution

Ncert Corner Textbook Questions Exercise 12 2

1. If angle of the sector is 60°, then find the area of sector if radius 6m

Watch Video Solution

2. Find the area of a quadrant of a circle whose perimeter is 22 cm.

Watch Video Solution

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

Watch Video Solution

4. A chord of a circle of radius 10 cm subtends a right angle at the centre. Find the area of the corresponding :

Minor segment

Watch Video Solution

5. A chord of a circle of radius 10 cm subtends a right angle at the centre. Find the area of the corresponding :

Major sector

Watch Video Solution

6. In a circle of radius r cm, an arc subtends an angle of 60° at the centre. The length of the arc will be :

Watch Video Solution

7. In a circle of radius 21 cm, an arc subtends an angle of 60° at the centre. Find :

Area of the sector formed by the arc

Watch Video Solution

8. In a circle of radius 21 cm, an arc subtends an angle of 60° at the centre. Find :

Area of the segment formed by the corresponding chord.

Watch Video Solution

9. A chord of a circle of radius 15 cm subtends an angle of $60o$at the centre. Find the areas of

the corresponding minor and major segments of the circle.

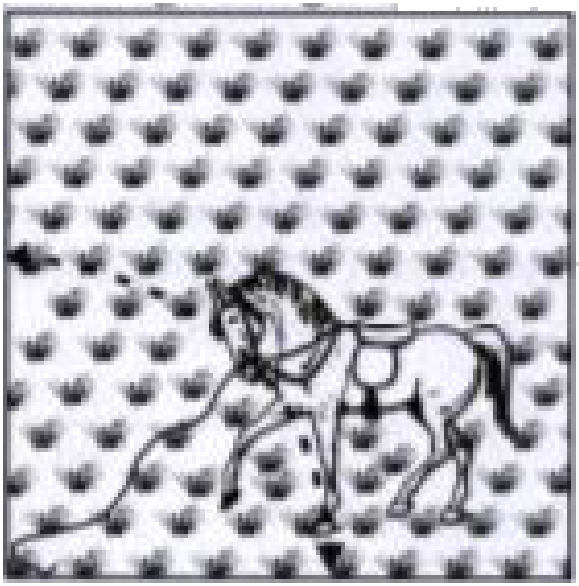
Watch Video Solution

10. A chord of a circle of radius 12 cm subtends an angle of 60° at the centre. Find the area of the corresponding segment of the circle.

(Use $\pi = 3.14, \sqrt{3} = 1.73$)

Watch Video Solution

11. A horse is tied to a peg at one corner of a square shaped grass field of side 15 m by means of a 5 m long rope (see the given figure). Find



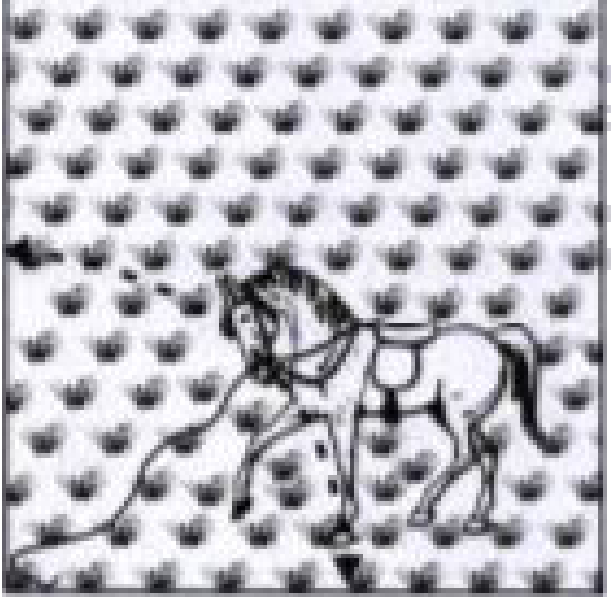
The area of that part of the field in which the

horse can graze.

[Use $\pi = 3.14$]

Watch Video Solution

12. A horse is tied to a peg at one corner of a square shaped grass field of side 15 m by means of a 5 m long rope (see the given figure). Find

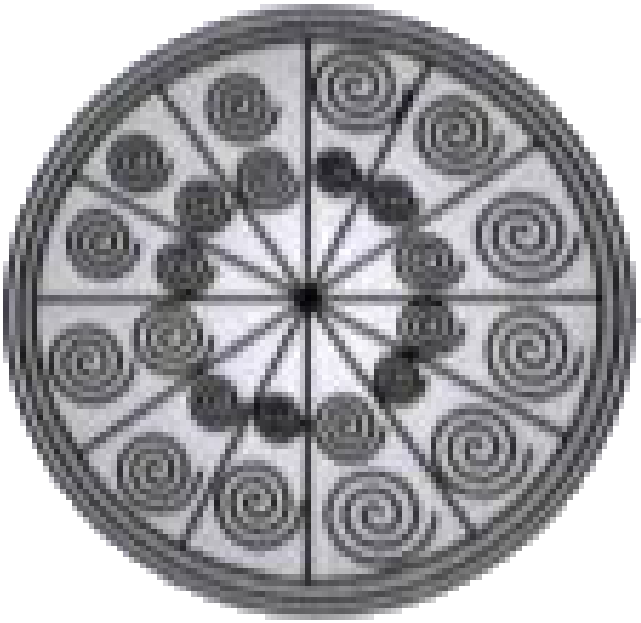


The increase in the grazing area if the rope were 10 m long instead of 5 m.

[Use $\pi = 3.14$]

Watch Video Solution

13. A brooch is made with silver wire in the form of a circle with diameter 35 mm. The wire is also used in making 5 diameters which divide the circle into 10 equal sectors as shown in the given figure. Find

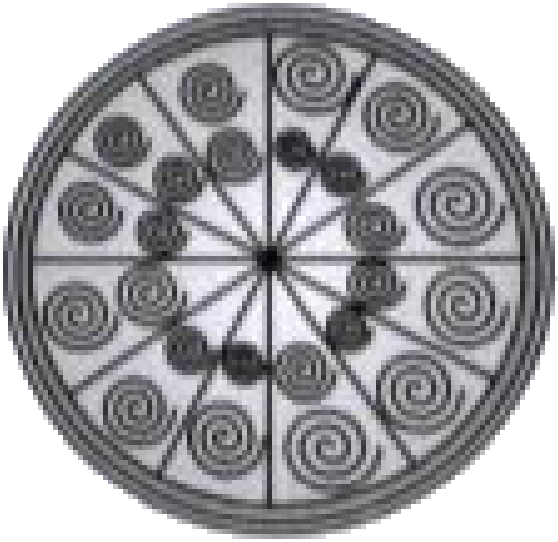


The total length of the silver wire required.

(Use $\pi = \frac{22}{7}$)

Watch Video Solution

14. A brooch is made with silver wire in the form of a circle with diameter 35 mm. The wire is also used in making 5 diameters which divide the circle into 10 equal sectors as shown in the given figure. Find



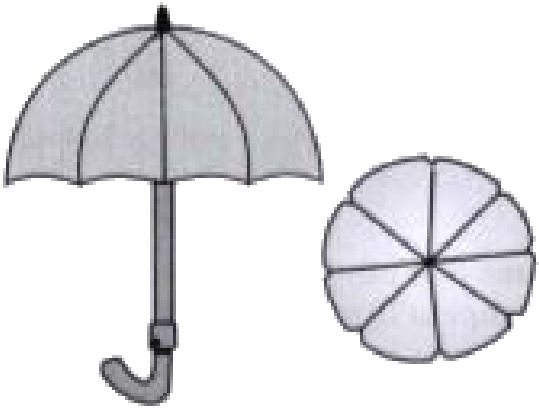
The area of each sector of the brooch.

(Use $\pi = \frac{22}{7}$)

Watch Video Solution

15. An umbrella has 8 ribs which are equally spaced (see figure). Assuming umbrella to be a

flat circle of radius 45 cm, find the area between the two consecutive ribs of the umbrella.



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16. A car has two wipers which do not overlap. Each wiper has a blade of length 25 cm

sweeping through an angle of $115o$. Find the total area cleaned at each sweep of the blades.

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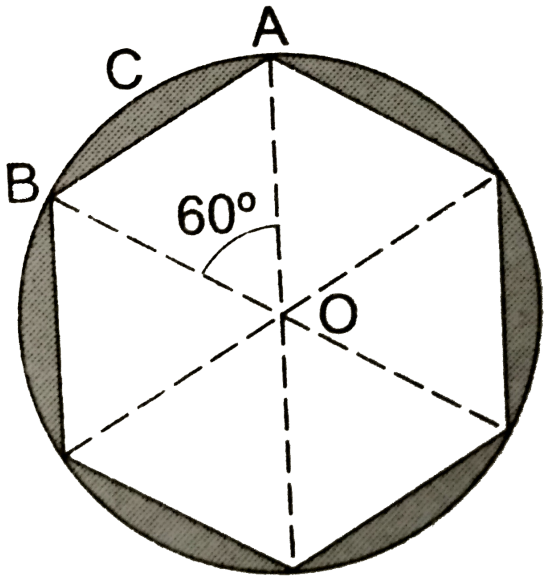
17. To warn ships for underwater rocks, a lighthouse spreads a red coloured light over a sector of angle $80o$to a distance of 16.5 km. Find the area of the sea over which the ships are warned.

Watch Video Solution

18. A round table cover has six and equal designs, as shown in the figure. If the radius of the cover is 28 cm find the cost of making the desings, at the rate of Rs. 0.35 per cm^2. [Use $\sqrt{3} = 1.7$]



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19. Area of a sector of angle p (in degrees) of a circle with radius R is

A. $\frac{p}{180} \times 2\pi R$

B. $\frac{p}{180} \times \pi R^2$

C. $\frac{p}{360} \times 2\pi R$

D. $\frac{p}{360} \times \pi R^2$

Answer: d

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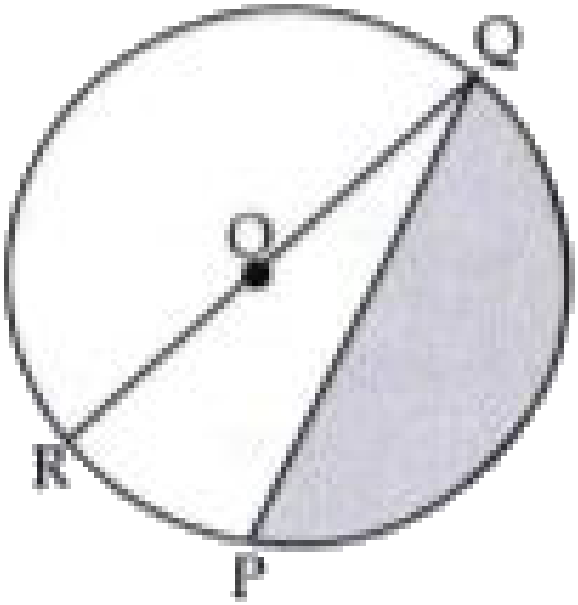
Ncert Corner Textbook Questions Exercise 12 3

1. Find the area of the shaded region in the given figure, if PQ = 24 cm, PR = 7 cm and O is the centre of the circle.



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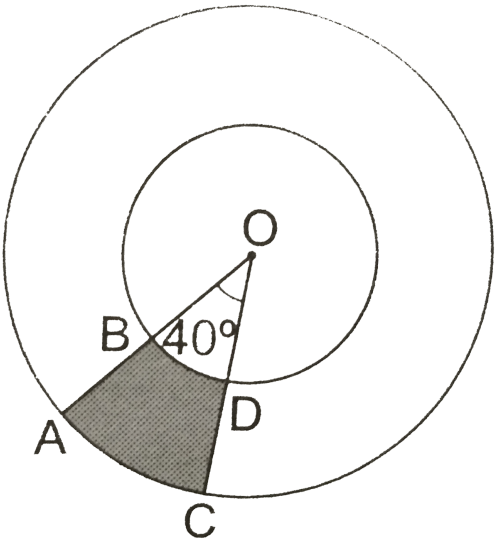
2. Find the area of the shaded region in the figure given below where radii of the two concentric circles with centre O are 7 cm and 14 cm respectively and $\angle AOC = 40^\circ$.



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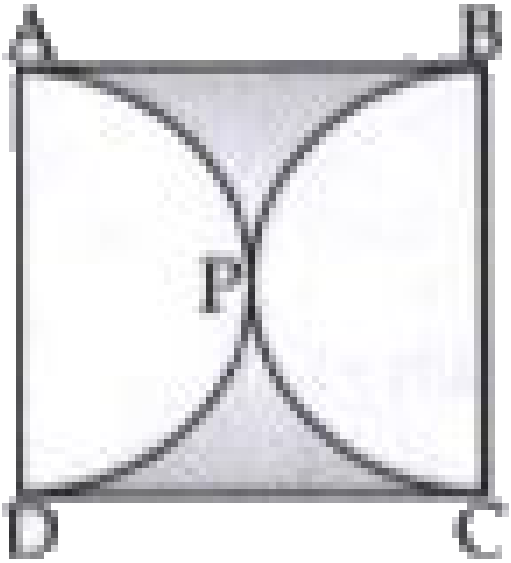
3. Find the area of the shaded region in the given figure, if ABCD is a square of side 14 cm and APD and BPC are semicircles.



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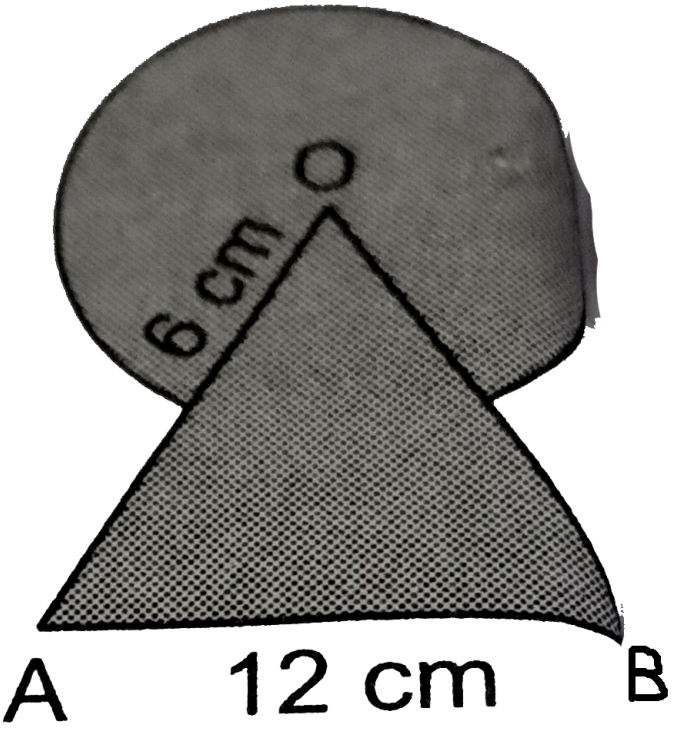
4. Find the area of the shaded region in the given figure, where a circular arc of radius 6 cm has been drawn with vertex O of an equilateral triangle OAB of side 12 cm as centre.

[Take $\sqrt{3} = 1.73$ and $\pi = 3.14$]



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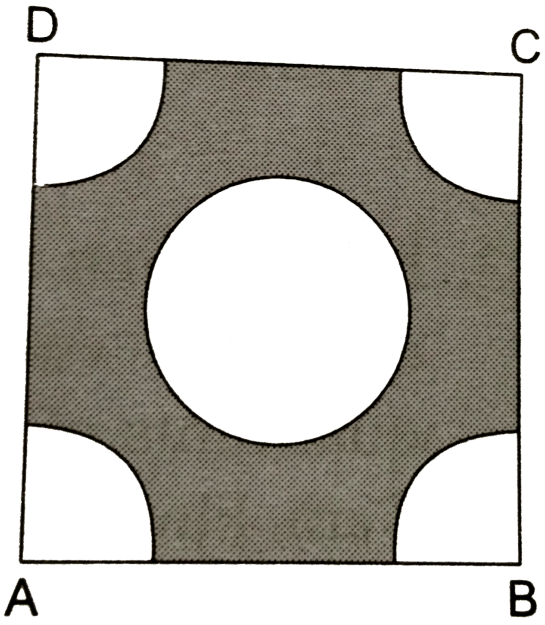
5. In the given figure ABCD is a square of side 4cm. A quadrant of a circle of radius 1 cm is drawn at each vertex of the square and a circle of diameter 2 cm is also drawn. Find the area of the shaded region.

[Use $\pi = 3.14$]



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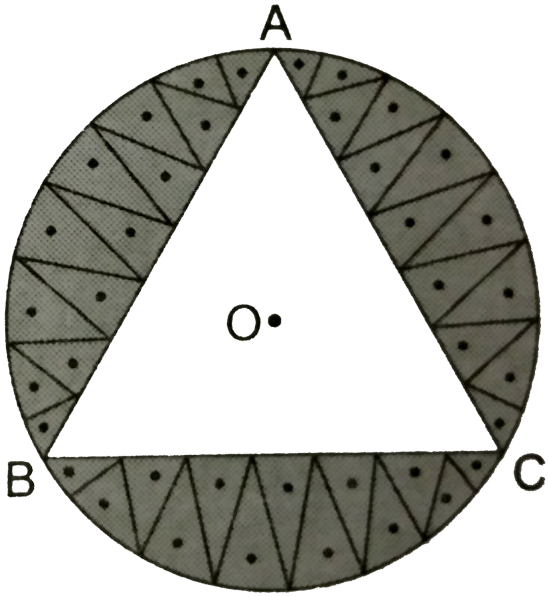
6. In a circulat table cover of radius 42 cm, a design is formed, leaving an equilateral triangle ABC in the middle as shown in the figure.

Find the area of the design. [Use $\sqrt{3} = 1.73$]



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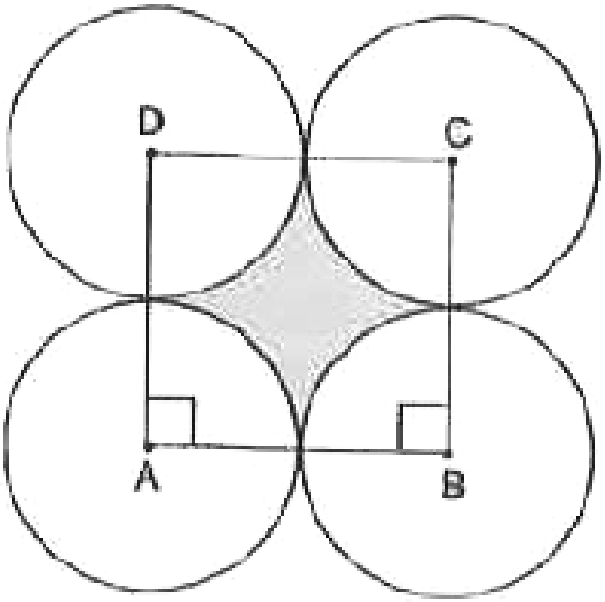
7. In the given figure, four equal circles are described about corners of a square so that each circle touches two of the circles as shown

in the figure. Find the area of the shaded region, each side of the square measuring 14 cm.



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8. Fig. 12.26 depicts a racing track whose left and right ends are semicircular. The distance between the two inner parallel line segments is 60 m and they are each 106 m long. If the track is 10 m wide, find : (i) the distance around the track alon

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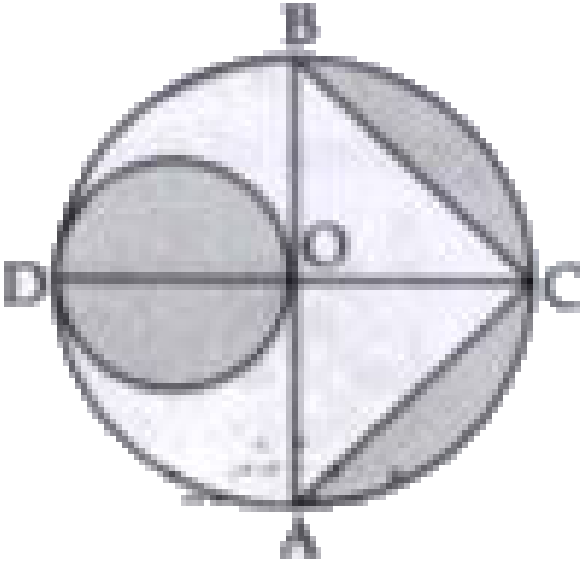
9. In the given figure, AB and CD are two diameters of a circle (with centre 0)

perpendicular to each other and OD is the diameter of the smaller circle. If OA = 7 cm, find the area of the shaded region.



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10. The area of an equilateral triangle ABC is $17320.5\ cm^2$. With each vertex of the triangle as centre, a circle is drawn with radius equal to half the length of the side of the triangle (see Fig. 12.28). Find the area of the shaded region. (`U

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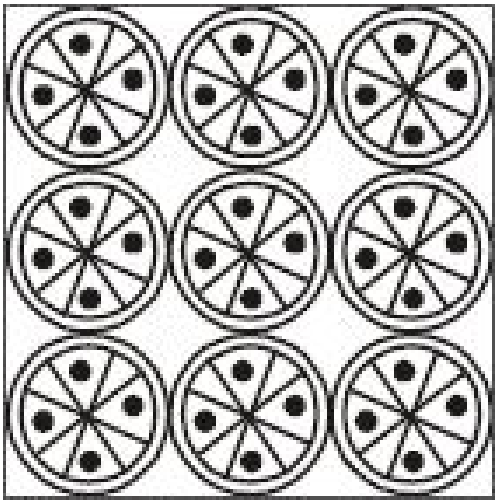
11. On a square handkerchief, nine circular designs each of radius 7 cm are made. Find the

area of the remaining portion of the handdkerchief



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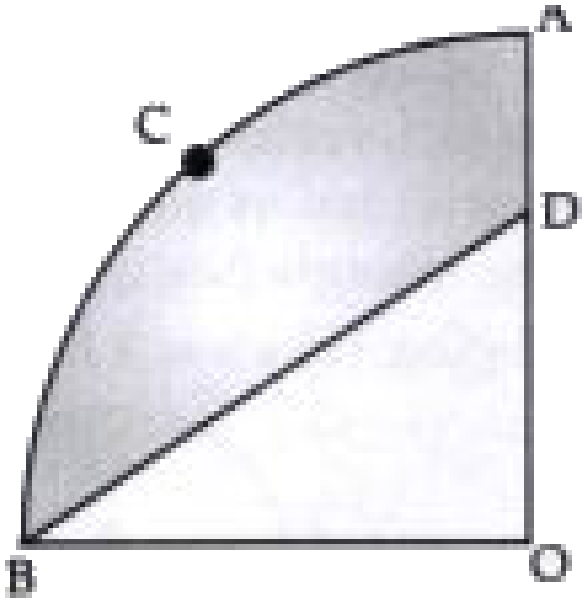
12. In the given figwe, OACB is a quadrant of a circle with centre O and radius 3.5 cm. If OD = 2

cm, find the area of the

(i) quadrant OACB,

(ii) shaded region.



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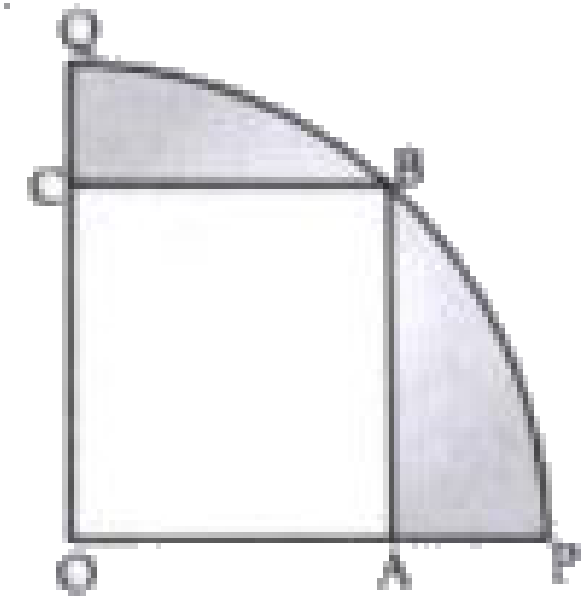
13. In the given figwe, a square OABC is inscribed in a quadrant OPBQ. If OA = 20 cm, find the area of the shaded region (Use π = 3.14)



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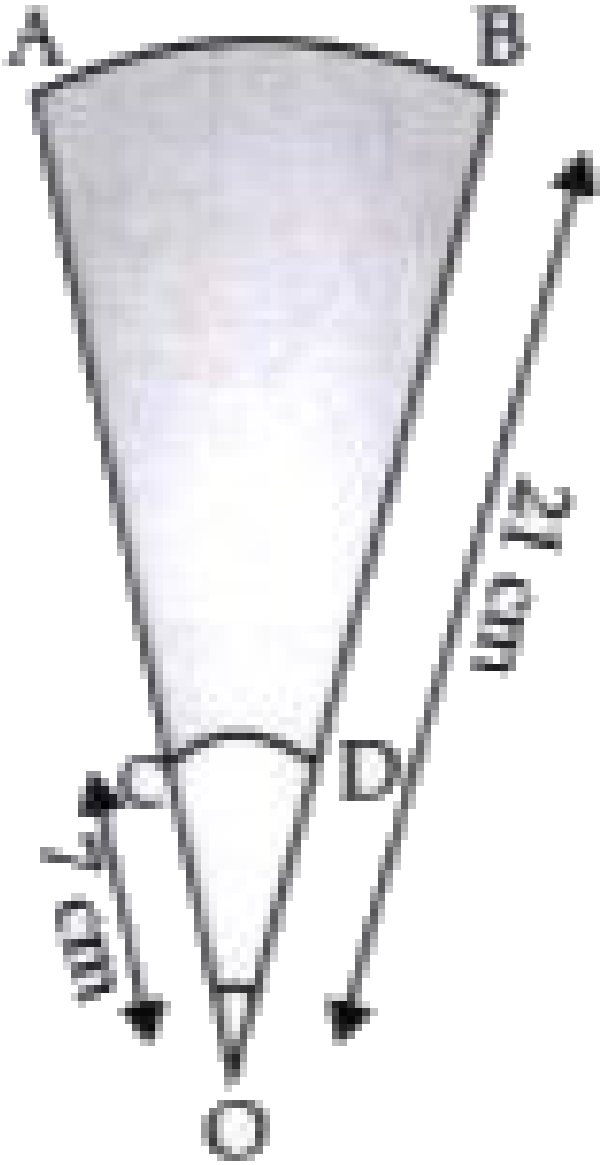
14. AB and CD are respectively arcs of two concentric circles of radii 21 cm and 7 cm and centre O (See figwe). If AOB = 30°, find the area

of the shaded region.



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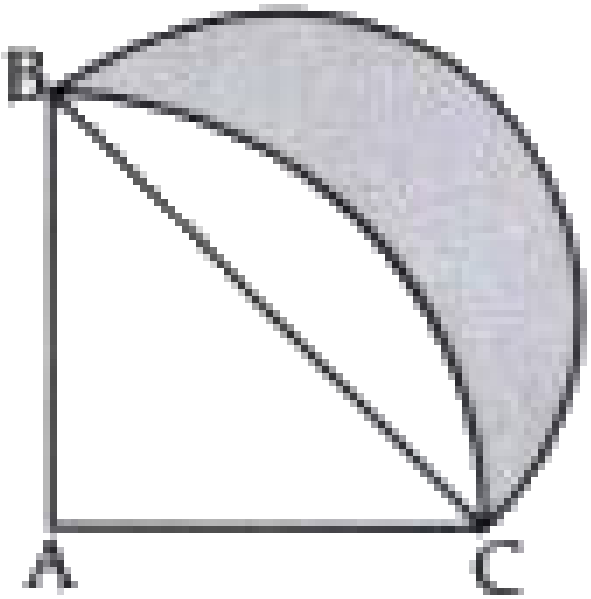
15. In the given figure, ABC is a quadrant of a circle of radius 14 cm and a semicircle is drawn with BC as diameter. Find the area of the shaded region.



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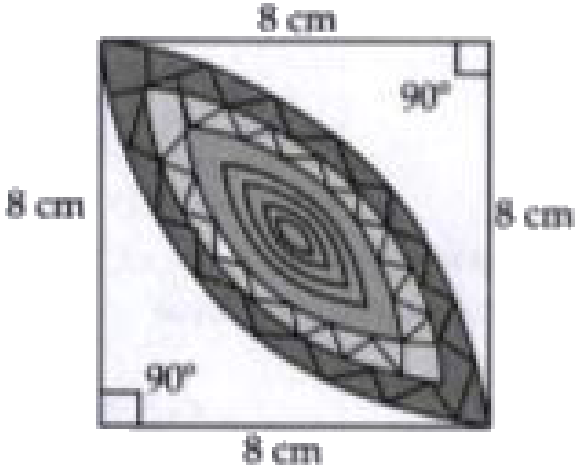
16. Calculate the area of the designed region in the figure common between the two quadrants of circles of radius 8 cm each.



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Ncert Exemplar Exercise 11 1

1. If the sum of the areas of two circles with radii R_1 and R_2 is equal to the area of a circle of radius R, then

A. $R_1 + R_2 = R$

B. $R_1^2 + R_2^2 = R^2$

C. $R_1 + R_2 < R$

D. $R_1^2 + R_2^2 < R^2$

Answer: B

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2. If the sum of the circumferences of two circles with radii R_1 and R_2 is equal to the circumference of a circle of radius R, then

A. $R_1 + R_2 = R$

B. $R_1 + R_2 > R$

C. $R_1 + R_2 < R$

D. $R_1^2 + R_2^2 < R$

Answer: A

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3. If the circumference of a circle and the perimeter of a square are equal, then

A. Area of the circle = Area of the square

B. Area of the circle $>$ Area of the square

C. Area of the circle $<$ Area of the square

D. None of these

Answer: B

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4. The area of the largest triangle that can be inscribed in a semicircle of radius r is :

A. r^2 sq. units

B. $\frac{1}{2}r^2$ sq. units

C. $2r^2$ sq. units

D. $\sqrt{2}r^2$ sq. units

Answer: A

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5. 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. $11:14$

Answer: B

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6. If is proposed to build a single circular park equal in area to the sum of areas of two circular parks of diameters 16 m and 12 m in a locality. The radius of the new park would be

A. 10 m

B. 15 m

C. 20 m

D. 24 m

Answer: A

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7. The area of the circle that can be inscribed in a square of side 6 cm is

A. $36\pi cm^2$

B. $18\pi cm^2$

C. $12\pi cm^2$

D. $9\pi cm^2$

Answer: D

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8. The area of the square that can be inscribed in a circle of radius 8 cm is

A. $256cm^2$

B. $128cm^2$

C. $64\sqrt{2}cm^2$

D. $64cm^2$

Answer: B

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9. 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. 42 cm

C. 28 cm

D. 16 cm

Answer: C

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10. 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. 31 cm

B. 25 cm

C. 62 cm

D. 50 cm

Answer: D

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Ncert Exemplar Exercise 11 2

1. Is the area of the circle inscribed in a square of side a cm, $\pi a^2 cm^2$? Give reasons for your answer.

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2. Will it be true to say that the perimeter of a square circumscribing a circle of radius a cm is 8a cm ? Give reson for your answer.

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3. In figure, a square is inscribed in a circle of diameter d and another square is circumscribing the circle . Is the area of the outer square four times the area of the inner square ? Give reason for your answer.

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4. Is it true to say that area of segment of a circle is less than the area of its corresponding sector? Why ?

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5. Is it true that the distance travelled by a cirular wheel of diameter d cm in one revolution is $2\pi d$ cm ? Why ?

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6. In covering a distance s m, a circular wheel of radius r m makes $\frac{s}{2\pi r}$ revolution. Is this statement trus ? Why ?

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7. The numerical value of the area of a circla is greater than the numerical value of its circumference. Is this statement true ? Why ?

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8. If the length of an arc of a circle of radius a is equal to that of an arc of a circle of radius 2a, then the angle of the corresponding sector of the first circle is double the angle of the corresponding sector of the other circle. Is this statement false? Why?

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9. The area of two sectors of two sectors of two different circles with equal corresponding

arc lengths are equal. Is this statement trus ?

Why ?

10. The areas of two sectors of two different circles are equal. Is it necessary that their corresponding arc lengths are equal ? Why ?

11. Is the area of the largest circle that can be drawn inside a rectangle of length a cm and breadth b cm $(a > b)$ is πb^2 cm ? Why ?

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12. Circumference of two circles are equal. Is it necessary that their areas be equal ? Why ?

Watch Video Solution

13. Areas of two circles are equal. Is it necessary that their circumferences are equal ? Why ?

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14. Is it true to say that area of square inscribed in a circle of diameter pcm is $p^2 cm^2$? Why ?

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Ncert Exemplar Exercise 11 3

1. Find the radius of a circle whose circumference is equal to the sum of the circumference of two circles of radii 15 cm and 18 cm .

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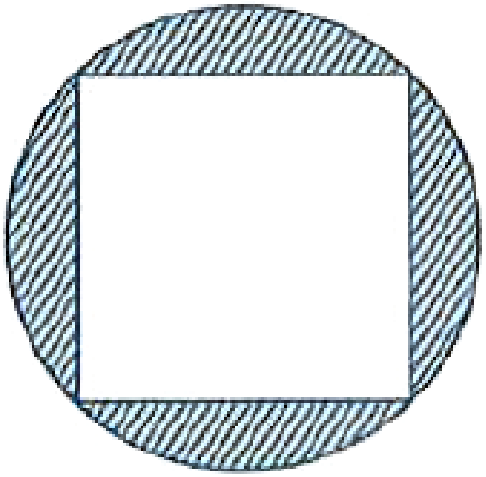
2. In Fig 1, a square of diagonal 8 cm is inserted in a circle. Find the area ol the shaded

region.



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3. Find the area of a sector of a circle of radius 7 cm and central angle 45^{o}.

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4. The wheel of a motor cycle is of radius 35 cm. How many revolutions per minute must the wheet make, so as to keep a speed of 66 km/h ?

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5. A cow is tied with a rope of length 14m at the corner of a rectangular field of dimensions $20m \times 16m$. Find the area of the field in which the cow can graze.

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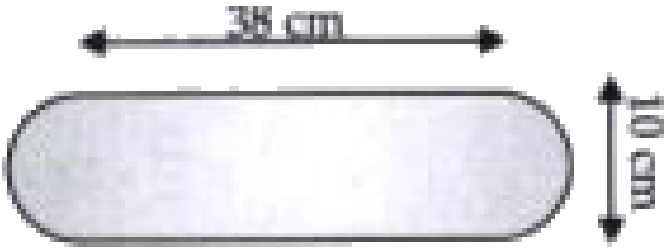
6. Find the area of the flower bed (with semi-circular ends) shown in figure



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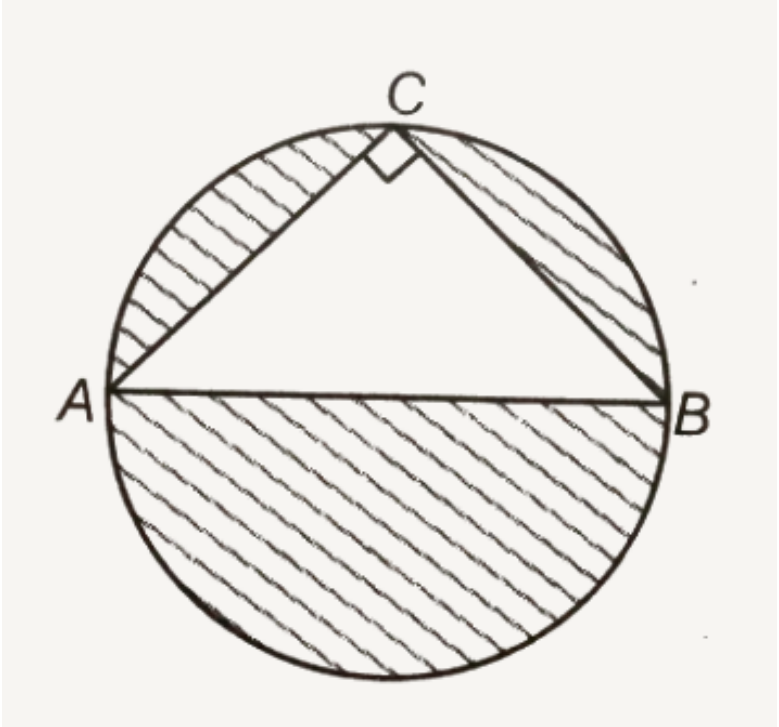
7. In figure , AB is a diameter of the circle, AC = 6cm and BC = 8cm . Find the area of the

shaded region . (use $\pi = 3.14$)



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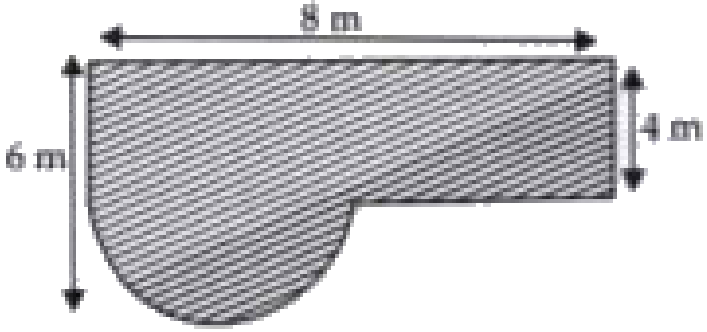
8. Find the area of the shaded field shown in figure.



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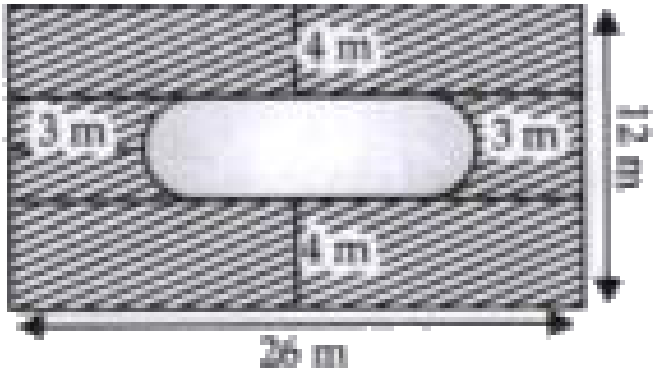
9. Find the area of the shaded region in figure .



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10. Find the area of the minor segment of a circle of radius 14cm, when the angle of the corresponding sector is 60°

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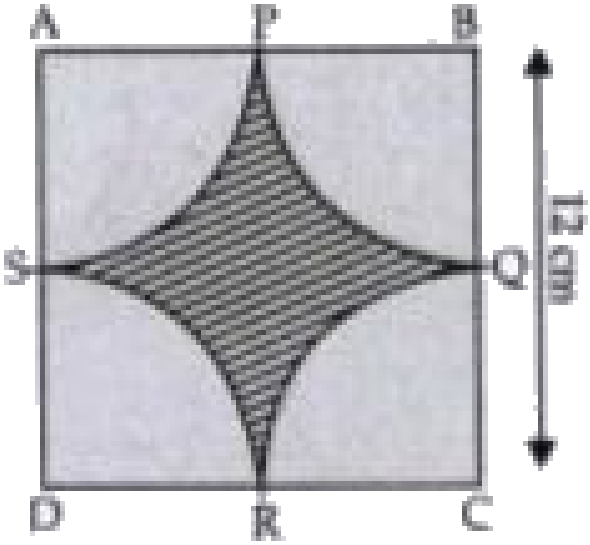
11. Find the area of the shaded region in figure, where arcs drawn with centres A, B, C and D intersect in pairs at mid-point P, Q, R and S of the sides AB, BC, CD and DA, respectively of a

square ABCD. (Use $\pi = 3.14$)



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12. In figure arcs are drawn by taking vertices A, B and C of an equilateral triangle of side 10 cm , To intersect the sides BC, CA and AB at

their respective mid- points D, E and F. Find the area of the shaded region. (use $\pi = 3.14$)

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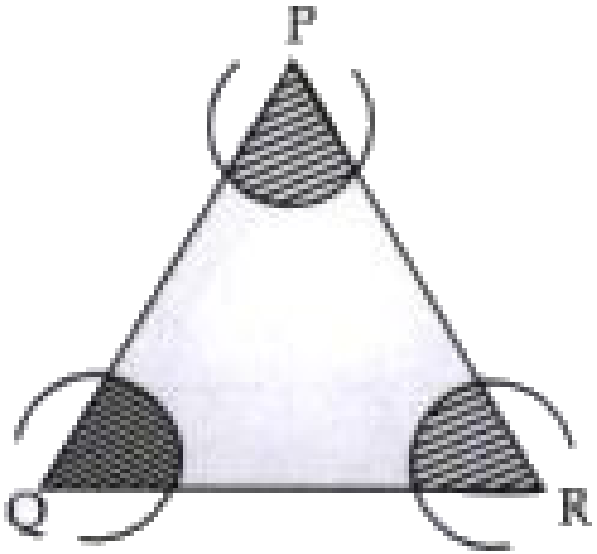
13. In the given figure, arcs have been drawn with radii 14 cm each and with centres P, Q and

R. Find the area of the shaded region.



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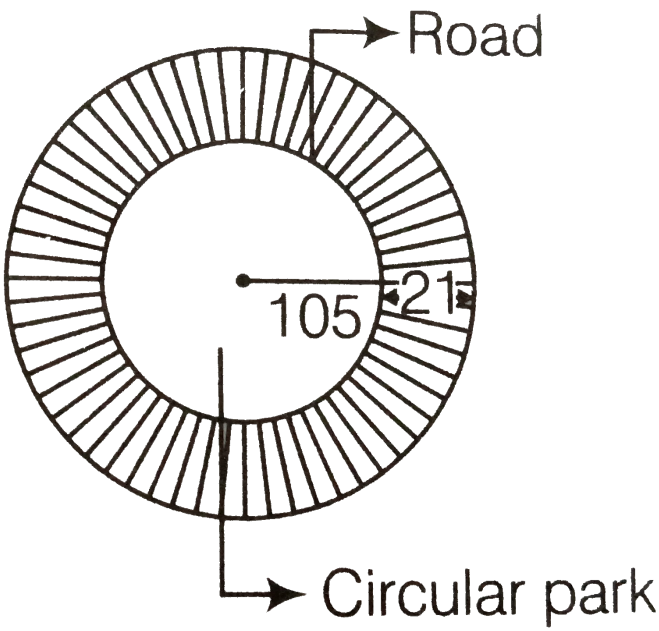
14. A circular park is surrounded by a road 21 m wide. If the radius of the park is 105 m, then

find the area of the road.



$[\because \text{area of circle} = \pi r^2]$

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15. In figure, arcs have been drawn of radius 21cm each with vertices A,B,C and D of quadrilateral ABCD as centres . Find the area of the shaded region.

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16. A piece of wire 20 cm long is bent into the from of an arc of a circle, subtending an angle

of 60° at its centre. Find the radius of the circle.

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Ncert Exemplar Exercise 11 4

1. The area of a circular playground is 22176 m^2. Find the cost of fencing this ground at the rate of Rs. 50 per m.

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2. The diameters of front and rear wheels of a tractor are 80 cm and 2m, respectively. Find the number of revolutions that rear wheel will make in covering a distance in which the front wheel makes 1400 revolutions .

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3. Sides of a triangular fiald are 15 m, 16m and 17m. With the three cormers of the field a cow, a buffalo and a horse are tied separately with ropes of length 7m each to graze in the field.

Find the area of the field which cannot be grazed by the three animals.

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4. Find the area of the segment of a circle of radius 12 cm whose corresponding sector has a central angle of 60° . (use $\pi = 3.14$)

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5. A circular pond is 17.5 m of diameter. It is surrounded by a 2 m wide path. Find the cost of constructing the path at the rate of Rs. 25 per m^2?

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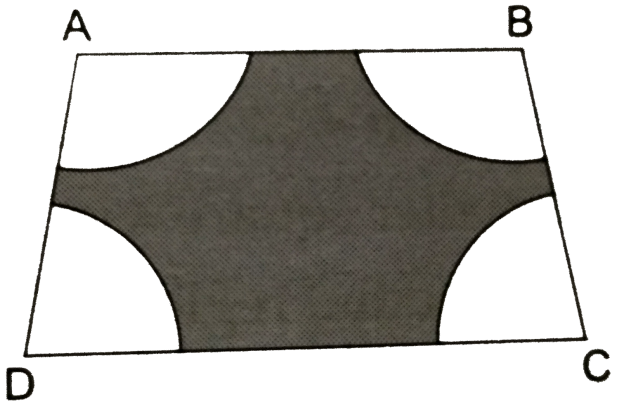
6. In the given figure ABCD is a trapezium in which

$AB \| DC, AB = 18cm, DC = 32cm$ and the distance between AB and DC is 14 cm. If

arcs of equal radii 7 cm hav been drawn with centres A,B,C and D then find the area of the shaded region.



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7. In Figure 6, three circles each of radius 3-5 cm are drawn in such a way that each of them

touches the other two. Find the area enclosed between these three circles (shaded region).

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8. Find the area of the sector of a circle of radius 5 cm, if the corresponding arc length is 3.5 cm.

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9. Four circular cardboard pieces of radii 7 cm are placed on a paper in such a way that each piece touches two pieces. Find the area of the portion enclosed between these pieces.

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10. On a square cardboard sheet of area $784cm^2$, four congruent circular plates of maximum size are placed such that each circular plate touches the other two plates

and each side of the square sheet is tangent to two circular plates. Find the area of the square not covered by the circular plates.

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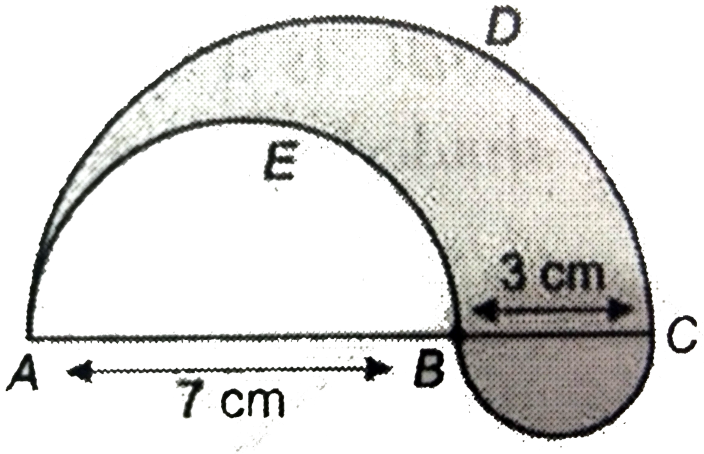
11. In the given figure, three semicircles are drawn of diameter 10 cm, 7 cm and 3 cm, respectively Find the perimeter of shaded

regions (Use $\pi = 3.14$)



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12. All the vertices of a rhombus lie on a circle. Find the area of the rhombus, if area of the circle is $1256cm^2$. (use $\pi = 3.14$)

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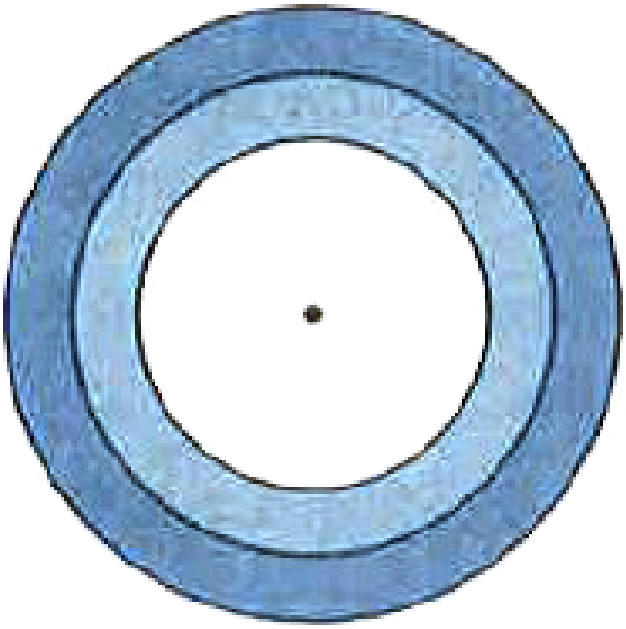
13. An archery target has three regions formed by three concentric circles in Fig. 12.73. If the diameters of the concentric circles are in the ratio 1:3:5. then find the ratio of the areas of three regions.



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14. The length of the minute hand of a clock is 5cm. Find the area swept by the miute hand during the time period $6:05$ am and $6:40$ am.

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15. Area of a sector of central angle 200° of a circle is $770cm^2$. Find the length of the corresponding arc of this sector.

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16. The central angles of two sectors of circles of radii 7 cm and 21 cm are respectively 120° and 40°. Find the areas of the two sectors as well as the lengths of the corresponding arcs. What do you observe ?

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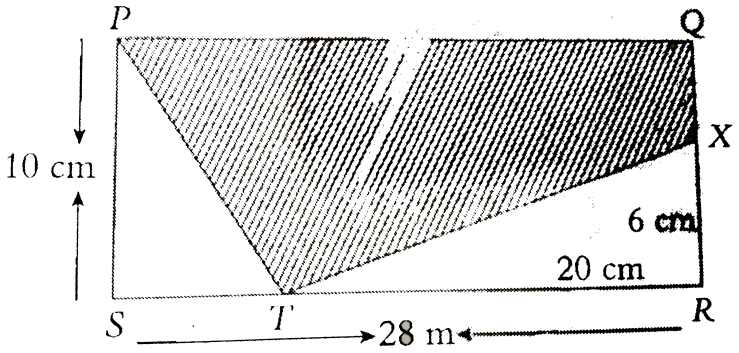
17. In the figure given below, PQRS is a rectanlge. Find the area of the shaded portion

in the given figure



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18. Find the number of revolutions made by a circular wheel of area $1.54m^2$ in rolling a distance of 176 m.

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19. Find the differnce of the areas of two segments of a circle formed by a chord of length 5cm subtending an angle of 90° at the centre.

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20. Find the difference of the areas of a sector of angle 120° and is corresponding major sector of a circle of radius 21cm.

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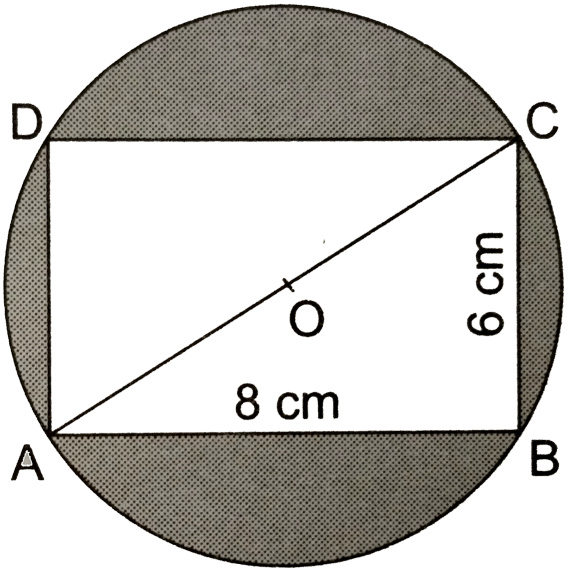
Board Corner Short Answer Type Questions

1. Find the area of the shaded region in the given figure, if ABCD is a rectangle with sides 8 cm and 6 cm and O is the centre of the circle.



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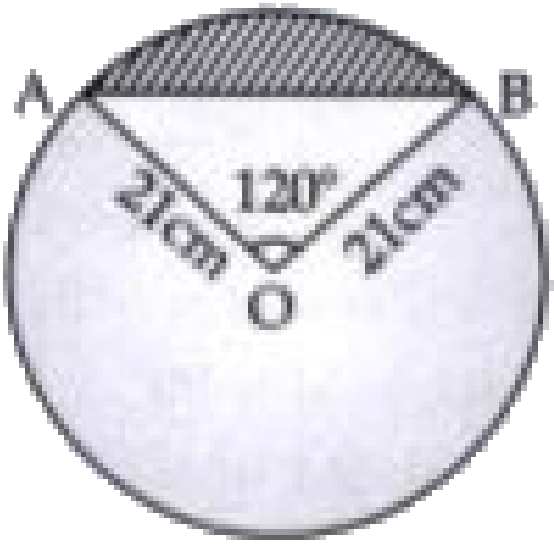
2. Find the area of the segment shown in Figure, if radius of the circle is 21 cm and $\angle AOB = 120^\circ$ (Use $\pi = \frac{22}{7}$)



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3. In Fig. 12.31, a square OABC is inscribed in a quadrant OPBQ. If $OA = 20cm,$ find the area of the shaded region. (Use $\pi = 3.14$)

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4. In the adjoining figure, find the area of the shaded region (Use $\pi = 3.14$)

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5. about to only mathematics

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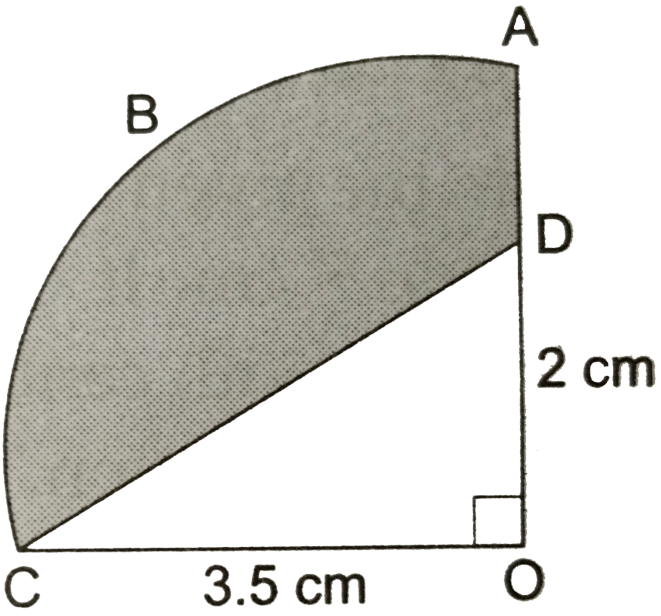
6. In the given figure OABC is a quadrant of a circle with centre O and radius $3.5cm$.If $OD = 2cm$,find the area of the shaded

region.



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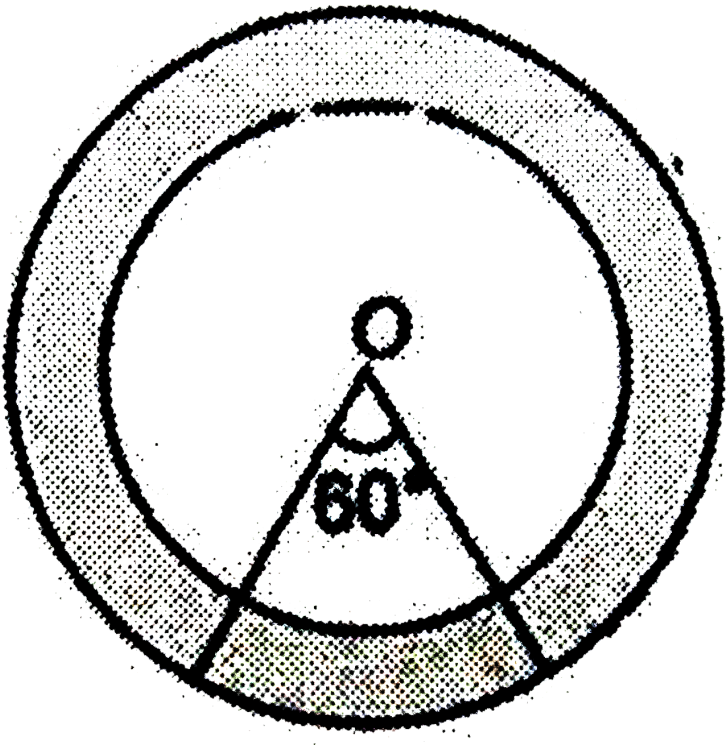
7. In the given figure, two concentric circles with centre O, have radii 21 cm and 42 cm. If

$\angle AOB = 60^\circ$, Find the ara of the shaded region



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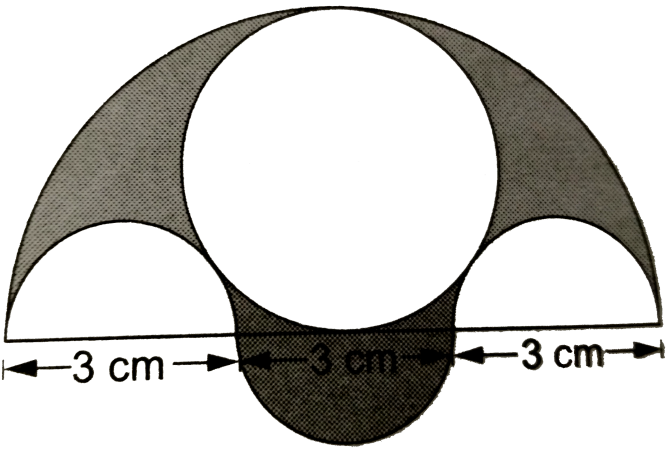
8. Three semicirles each of diameter 3 cm, a circle of diameter 4.5 cm and a semicircle of radius 4.5 cm are drawn in the given figure. Find the area of the shaded region.



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Board Corner Long Answer Type Questions

1. A chord AB of a circle of radius 10 cm makes a right angle at the centre of the circle. Find the area of the major and minor segment. (Use $\pi = 3.14$)

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2. In the given figure, the side of square is 28 cm and radius of each circle is half of the length of the sides of the square where O and

O' are centres of the circles. Find the area of shaded region

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3. In the given figure,ABC is a right angled triangle in which $\angle A = 90^\circ$,AB=21 cm and AC=28 cm.Semi-circles are drawn on AB, BC and AC as diameters. Find the area of shaded region.

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4. In the adjoining figure, O is the centre of the circle with AC = 24 cm, AB = 7 cm and $\angle BOD = 90^\circ$. Find the area of the shaded region.

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Multiple Choice Questions

1. If the difference 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

B. 14

C. 44

D. 7

Answer: D

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2. The area of the sector of a circle of radius 6 cm whose central angle is 30° .(Take $\pi = 3.14$)

A. $9.42cm^2$

B. $8.42cm^2$

C. $7.42cm^2$

D. $9.42cm^2$

Answer: A

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3. If π taken as $\frac{22}{7}$,the distance (in meters) covered by a wheel of diameter 35 cm , in one revolution is :

A. 2.2

B. 9.625

C. 1.1

D. 96.25

Answer: B

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4. The circumference of a circular field is 528 cm .Then the radius will be :

A. 84 cm

B. 55 cm

C. 64 cm

D. 45 cm

Answer: A

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5. The length of arc of a sector of angle θ° of a circle with radius R is :

A. $\frac{2\pi R\theta}{180^\circ}$

B. $\frac{\pi R^2\theta}{180^\circ}$

C. $\frac{2\pi R\theta}{360^\circ}$

D. $\frac{\pi R^2\theta}{360^\circ}$

Answer: B

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6. 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

Answer: D

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7. The diameter of the having 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

Answer: C

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8. 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

Answer: B

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9. The inner circumeference of a radius 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

Answer: D

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10. Two concentric circles form a ring . The inner and outer circumference of the ring are $50\frac{2}{7}$ and $75\frac{3}{7}$ m respectively . Find the width of the ring .

A. 1 m

B. 3 m

C. 2 m

D. 4 m

Answer: D

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11. A sector of 120° cut out from a circle , has an area of $9\frac{3}{7}$ sq.cm . Find the radius of the circle .

A. 1 cm

B. 3 cm

C. 1 m

D. 3 m

Answer: C

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12. If the radius of a circle is increased by 75 % then its circumference will increase by :

A. 0.25

B. 0.75

C. 0.5

D. 1

Answer: C

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13. A can go around a circular path 8 times in 40 minutes . If the diameter of the circle is increased to 10 times the original diameter , then the time required by A to go around the new path once , travelling at the same speed as before as :

A. 20 min

B. 50 min

C. 25 min

D. 100 min

Answer: C

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14. If the radius of a circle is doubled its area is increased by :

A. 1

B. 3

C. 2

D. 4

Answer: C

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15. If the circumference of a circle increases from 4π to 8π, what change occurs in its area ?

A. It is halved

B. It tripes

C. It doubles

D. It quadruples

Answer: D

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16. Number of rounds that a wheel of diameter $\frac{7}{11}$ metre will make in moving a distance of 4 km is .....

A. 1000 rounds

B. 3000 rounds

C. 2000 rounds

D. none of these

Answer: B

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17. A pendulum swings through an angle of 30° 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

Answer: A

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18. If the radius of a circle is dinimished by 10 % then its area is diminshed by .....

A. 0.29

B. 0.15

C. 0.19

D. 0.09

Answer: B

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19. If the area of a semi circular region is 308 sq cm , then its perimeter is .....

A. 27 cm

B. 80 cm

C. 75 cm

D. 72 cm

Answer: D

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20. If a chord of a circle of radius 14 cm makes an angle of 90° at the centre , then the area of major segment is .....

A. $560cm^2$

B. $160cm^2$

C. $300cm^2$

D. none of these

Answer: A

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21. Area of a sector of angle p(in degrees) of a circle with radius R is :

A. $\frac{p}{180^\circ} \times 2\pi R$

B. $\frac{p}{360^\circ} \times 2\pi R$

C. $\frac{p}{180^\circ} \times 2\pi R^2$

D. $\frac{p}{720^\circ} \times 2\pi R^2$

Answer: D

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Very Short Answer Type Questions

1. The circumference of a circle is 22 cm . Find the area of its quadrant $\left(\text{ in } \mathrm{cm}^2 \right)$

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2. If the area of a circle is numerically equal to twice its circumference then find the diameter of the circle .

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3. Find the area of a quadrant of a circle whose circumference is 88 cm .

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4. Find the area of annulus whose inner and outer radii are 6 cm and 8 cm .

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5. The perimeter of a sheet of tin in the shape of quadrant of a circle is $12.5cm$ then find its area.

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6. A cow is tied with a rope of length 14 m at one corner of a rectangular field of dimensions 20 $m \times 15$ m .Find the area of the field in which the cow cannot graze . $\left(\text{Use } \pi = \frac{22}{7} \right)$

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

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8. In a circle of radius 21 cm , an arc substends an angle of 60° at the centre .Find the (i) the length of the arc , and (ii) area of the sector formed by the arc. $\left(\text{Use}\pi = \frac{22}{7}\right)$

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Short Answer Type Qestions

1. A chord circle of radius 10 cm substends a right angle at the centre .Find the area of the corresponding minor segment and hence find the area of the major segment . $[\text{ Use } \pi = 3.14]$

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2. Find the area of the minor sengment of a circle of radius 14 cm , when its central angle is 60° Also find the area of the corresponding major segment . $\left[\text{use } \pi = \frac{22}{7} \right]$

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Long Answer Type Questions

1. Find the area of the minor segment of a circle of radius 5 cm formed by a chord

substending an angle of 90° at the centre .

$[\text{Use } \pi = 3.14]$

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Assertion And Reasoning Based Questions

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

Reason : to define an arc we need at least 3 points .

A. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion .

B. The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion

C. Assertion is true but the Reason is false

D. Assertion is false but the Reason is true

Answer: D

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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 .

A. Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion .

B. The Assertion and the Reason are correct but the Reason is not the correct

explanation of the Assertion

C. Assertion is true but the Reason is false

D. Assertion is false but the Reason is true

Answer: C

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Passage Based Questions

1. Aman is cycling such that the wheels of the cycle are making 180 revolution per minute .If

the diameter of the wheel is 70 cm .

Based on the given information , answer the following questions :

Find thee speed (in km/hr) with which the Aman is cycling .

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2. Aman is cycling such that the wheels of the cycle are making 180 revolution per minute .If the diameter of the wheel is 70 cm .

Based on the given information , answer the

following questions :

Distance travelled by Aman in $\frac{1}{2}$ hour .

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Self Assessment

1. The radii of two circles are 19 cm and 9 cm respectively .Find the radius and the area of the circle which has its circumference equal to the sum of the circumference of the two circles .

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2. A car has two wipers which do not overlap .Each wiper has a blade of length 25 cm sweeping through an angle of 115^2 .Find the total area cleaned in each sweep of the blades .

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3. To warn ships about underwater rocks , a lighthouse spread a red -coloured light over a

sector of 80° angle to a distance of 16.5 km . Find the area of the sea over which the ships are warned . $[\ \text{use}\ \ \pi = 3.14]$

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4. An umbrella has 8 ribs .Assuming the umbrella to be a flat circle of radius 45 cm , find the area between two consecutive ribs of the umbrella .

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5. A circular brooch is made of silver wire and consists of 5 diameters (35 mm each) forming of equal dimensions .Calculate the total length of silver wire required and the area of each sector that is formed .

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6. In a circle of radius 21 cm , an arc substends an angle of 60° at the centre .Find (i) the length of the arc ,(iii) area of the segment

formed by the corresponding chord of the arc

.

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7. A chord PQ of length 12 cm substends an arc of 120° at the centre of a circle .Find the area of the minor segment cut off by the chord PQ .

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8. A circular field has a perimeter of 650 m. A square plot having its vertices on the circumference of the field is marked in the field .Calculate the area of the square plot .

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9. A circular pend is 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 $Rs25$ per square metre .($\text{Use } \pi = 3.14$)

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