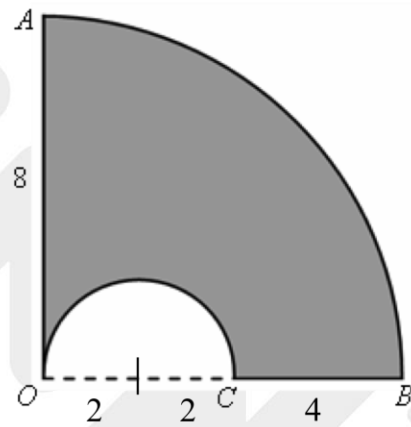


Revision
Arc Length and Area of Sector

Question 1:

The diagram shows a quadrant of a circle, centre O and radius 8 cm.
 C is the midpoint of OB and a semicircle is drawn with OC as diameter.
Find the perimeter of the shaded region, give your answer in the form $a + b\pi$.

Answers:

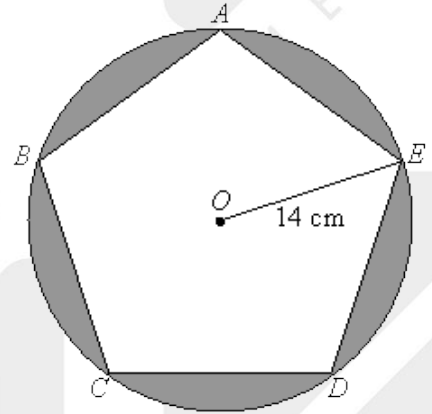


Revision
Arc Length and Area of Sector

Question 2:

In the diagram above, a regular pentagon $ABCDE$ is inscribed in a circle. The center of the circle is O and $OE = 14$ cm. Calculate

- $\angle AOB$
- the length of the arc AE ,
- the shaded area.



Answers:

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Arc Length and Area of Sector

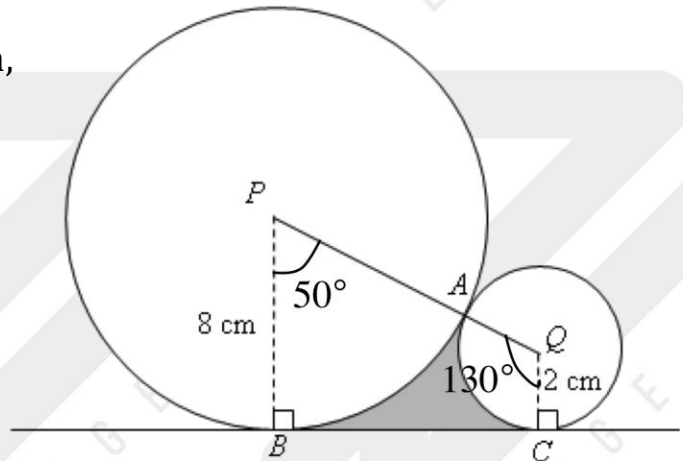
Question 3:

The diagram below shows two circles, centre P and Q , of radius 8 cm and 2 cm respectively, touching at point A . A common tangent touches the circles at B and at C .

Given that $\angle BPA = 50^\circ$ and $\angle AQC = 130^\circ$

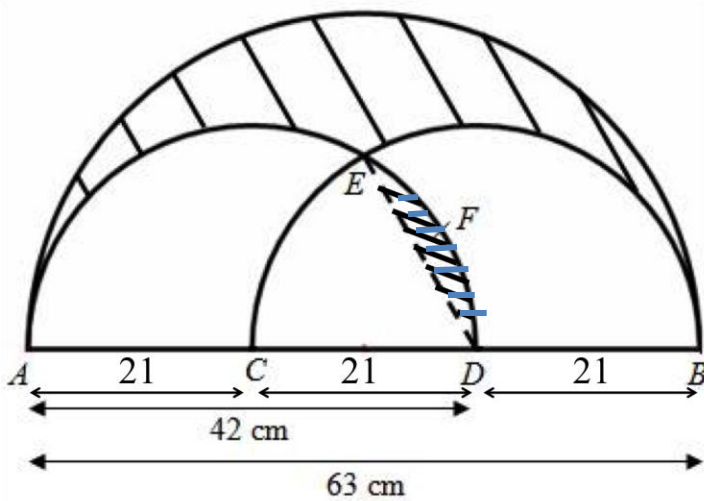
- find the perimeter of the shaded region, leaving your answers in terms of π .
- find the area of the shaded region.

Answers:



Revision
Arc Length and Area of Sector

Question 4:



The diagram shows a kite which is made of wire. The kite consists of a large semicircle with diameter AB of 63 cm and two small semicircles of diameter 42 cm each. C and D are the centres of the two small semicircles and $\pi = \frac{22}{7}$.

- Explain why $\angle EDC$ is 60° .
- Find
 - DE ,
 - arc DFE ,
 - the perimeter of the shaded region.
- A special fabric is used to make the shaded region. Find
 - the area of sector CED ,
 - the area of segment DEF .
- Show that the area enclosed by the fabric is 444 cm^2 , correct to 3 significant figures.

Answers:

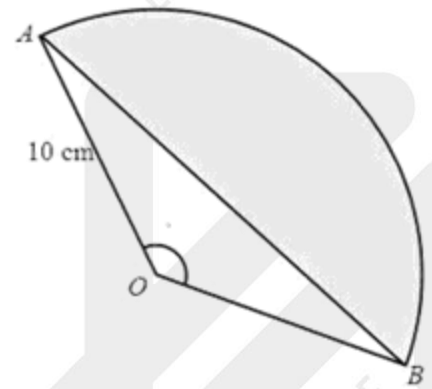
Revision
Arc Length and Area of Sector

Question 5:

The diagram shows a sector OAB of a circle with centre O where $OA = 10$ cm and the perimeter of the sector is 45 cm.

- a) Show that $\angle AOB = 2.5$ radians .
- b) Hence find the shaded area.

Answers:

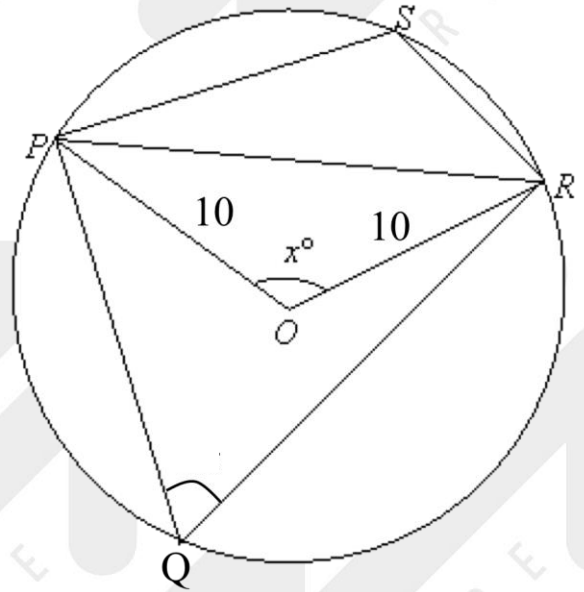


Revision
Arc Length and Area of Sector

Question 6:

In the diagram, O is the centre of the circle.
 P, Q, R, S are four points on the circumference
of the circle and $\angle POR = x^\circ$.

- a) Find, in terms of x ,
- $\angle PQR$.
 - Find, in terms of x , $\angle PSR$.
- b) Given that obtuse $\angle POR = 2.1$ radians
and $PO = 10$ cm, calculate
- the length of major arc PQR .
 - the area of the minor segment PSR .



Answers:

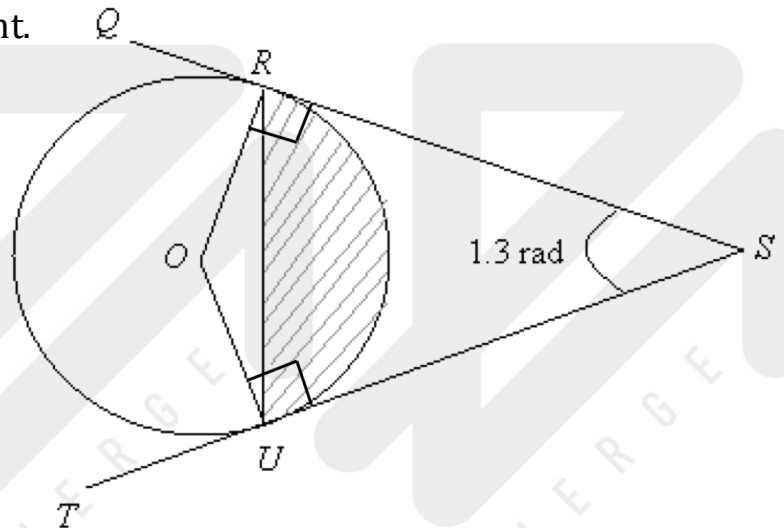
Revision
Arc Length and Area of Sector

Question 7:

The figure below shows a circle with centre O and radius of 7 cm.
 QRS and TUS are tangents to the circle at point R and U respectively.

- Show that $\angle ROU = 1.84$ rad.
- Calculate the perimeter of shaded segment.
- Calculate the area of shaded segment.

Answers:



*Revision
Arc Length and Area of Sector*

Revision Accomplished!