

SECTORS

[ESTIMATED TIME: 60 minutes]

GCSE

(+ IGCSE) EXAM QUESTION PRACTICE

1.

[3 marks]

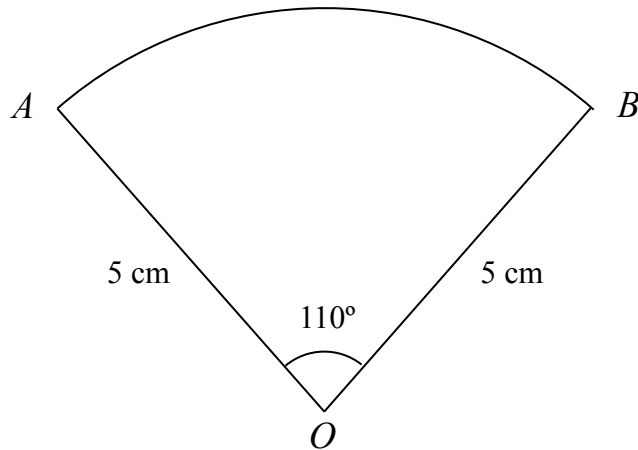


Diagram **NOT**
accurately drawn

The diagram shows a sector of a circle, centre O .
The radius of the circle is 5 cm.
Angle $AOB = 110^\circ$.

Work out the **perimeter** of the sector.
Give your answer correct to 3 significant figures.

..... cm

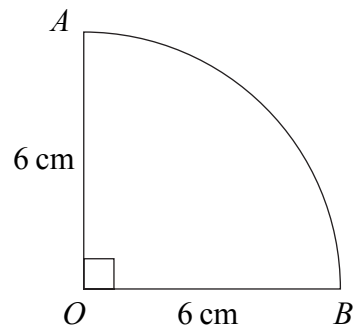


Diagram **NOT**
accurately drawn

The diagram shows a shape.
 AB is an arc of a circle, centre O .
 Angle $AOB = 90^\circ$.
 $OA = OB = 6$ cm.

Calculate the perimeter of the shape.
 Give your answer correct to 3 significant figures.

..... cm

The diagram shows a sector of a circle, radius 45 cm, with angle 84° .

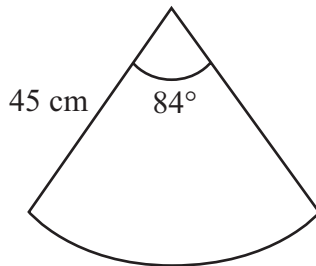


Diagram **NOT**
accurately drawn

Calculate the area of the sector.
 Give your answer correct to 3 significant figures.

..... cm^2

4.

[4 marks]

Work out the area of the shaded sector of the circle.
Give your answer correct to 3 significant figures.

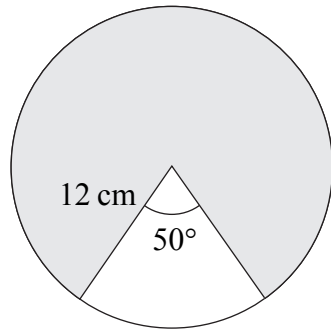


Diagram **NOT**
accurately drawn

..... cm²

5.

[3 marks]

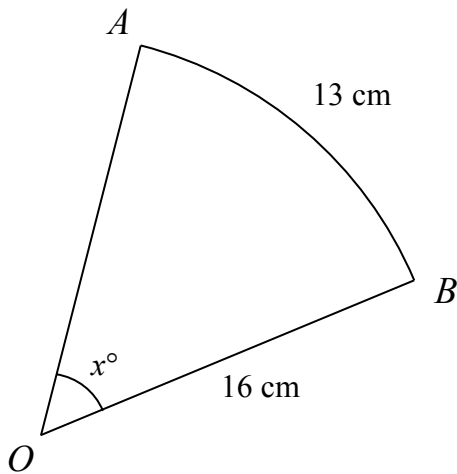


Diagram **NOT**
accurately drawn

AB is an arc of length 13 cm of a circle centre O . The radius of the circle is 16 cm.
Calculate the value of x .

$x =$

A fan is shaped as a sector of a circle, radius 12 cm, with angle 110° at the centre.

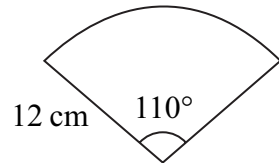


Diagram **NOT**
accurately drawn

(a) Calculate the area of the fan.

..... cm^2
(2)

Another fan is shaped as a sector of a circle, radius r cm, with angle 120° at the centre.

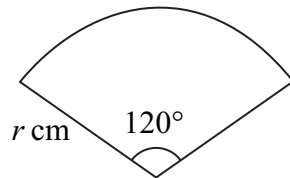


Diagram **NOT**
accurately drawn

(b) Show that the total perimeter of this fan is $\frac{2}{3}r(3 + \pi)$ cm.

(3)

In the diagram, a sector of a circle of radius 9 cm is shaded.

The area of the sector is $72\pi \text{ cm}^2$.

Calculate the value of x .

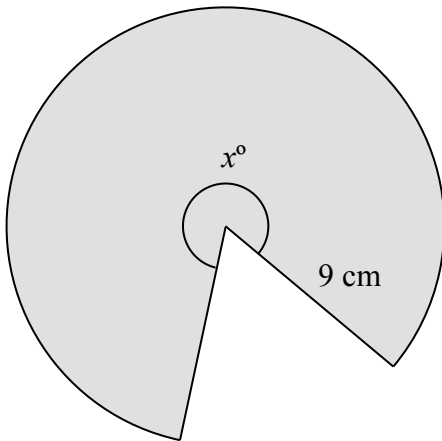


Diagram **NOT**
accurately drawn

$x = \dots\dots\dots$

The diagram shows sector OAB of a circle, centre O .

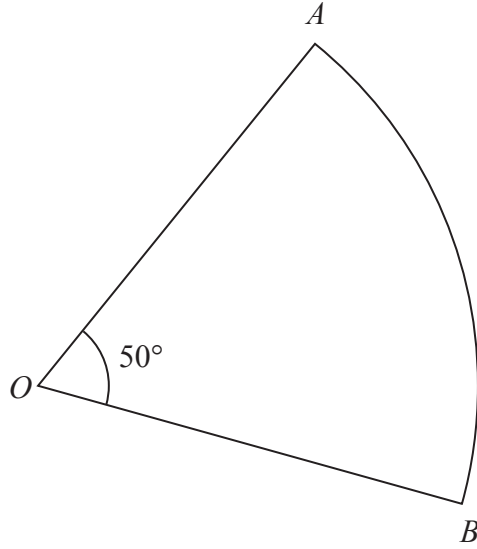


Diagram **NOT**
accurately drawn

Angle $AOB = 50^\circ$

Sector OAB has area $20\pi \text{ cm}^2$

Calculate the perimeter of sector OAB .

Give your answer correct to 3 significant figures.

.....cm

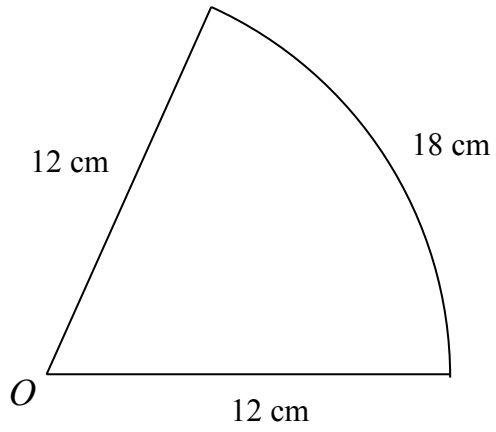
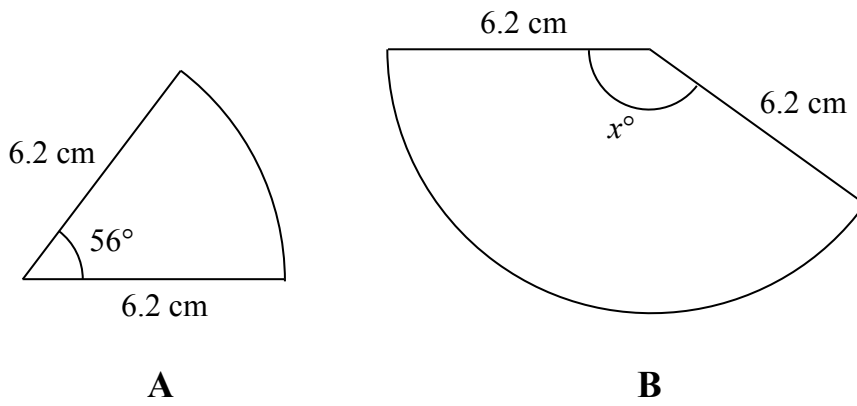


Diagram **NOT**
accurately drawn

The diagram shows a sector of a circle, centre O , radius 12 cm .
The arc length of the sector is 18 cm .

Calculate the area of the sector.

..... cm^2



Diagrams **NOT**
accurately Drawn

The diagram shows two different sectors from a circle of radius 6.2 cm

(a) Calculate the perimeter of sector **A**.

..... cm
(3)

(b) The area of sector **B** is 48 cm^2 .
Calculate the value of x .

.....
(3)

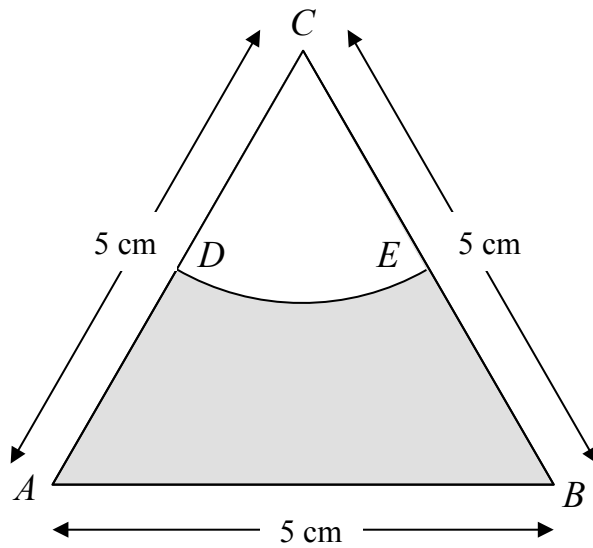


Diagram **NOT**
accurately drawn

The diagram shows an equilateral triangle ABC with sides of length 5 cm.

D is the midpoint of AC .

E is the midpoint of BC .

CDE is a sector of a circle, centre C .

Calculate the area of the shaded region.

Give your answer correct to 3 significant figures.

..... cm^2

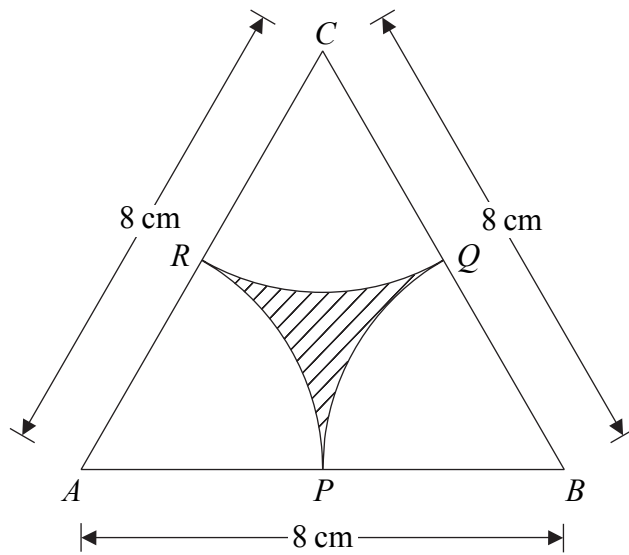


Diagram **NOT**
accurately drawn

ABC is an equilateral triangle of side 8 cm.

With the vertices A , B and C as centres, arcs of radius 4 cm are drawn to cut the sides of the triangle at P , Q and R .

The shape formed by the arcs is shaded.

- (a) Calculate the perimeter of the shaded shape.
Give your answer correct to 1 decimal place.

..... cm
(3)

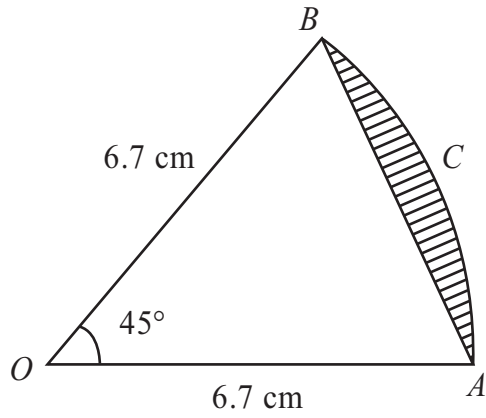


Diagram **NOT**
accurately drawn

AB is a chord of a circle, centre O .

ACB is an arc of the circle.

$OA = OB = 6.7 \text{ cm}$.

Angle $AOB = 45^\circ$.

Calculate the area of the shaded segment.

Give your answer correct to 3 significant figures.

..... cm^2

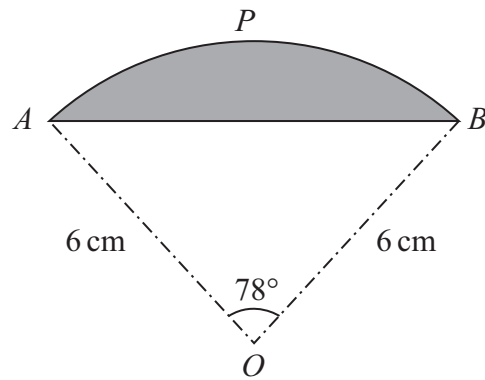


Diagram **NOT**
accurately drawn

The diagram shows a sector $OAPB$ of a circle, centre O .

AB is a chord of the circle.

The radius of the circle is 6 cm .

Angle $AOB = 78^\circ$.

Calculate the perimeter of the shaded **segment** APB .

Give your answer correct to 3 significant figures.

..... cm