Bishops Online Tutoring

Education Consultancy

Edexcel GCSE Mathematics

AREA OF SECTOR AND LENGTH OF ARCS

Materials Required:

- Pen
- HB Pencil
- Ruler (in centimetres and millimetres)
- Protractor
- Compass

Instructions:

- Use a black ink pen to answer all questions
- Fill your name in the section below
- Answer the questions in the spaces provided
- Show your working out for all answers

Information:

- The marks allocated for each question are displayed within brackets – utilise this information to gauge the appropriate amount of time to dedicate to each question
- Questions marked with an asterisk (*) will assess your written communication; be careful of spelling, punctuation and grammar with these questions

Advice:

- Carefully read the question before attempting to answer it
- Be vary of time and try to answer every question
- If you have enough time in the end, go back and check your answers. A good way to check your answers is to retry the question with the hope of getting the same answer as before without looking at your working out from before

CALCULATOR ALLOWED

NAME:	

1.

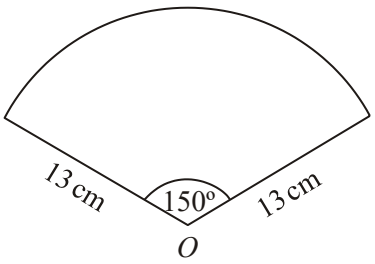


Diagram **NOT** accurately drawn

The diagram shows a sector of a circle, centre O.
The radius of the circle is 13 cm.
The angle of the sector is 150°.

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

..... cm^2

(Total 2 marks)

2.

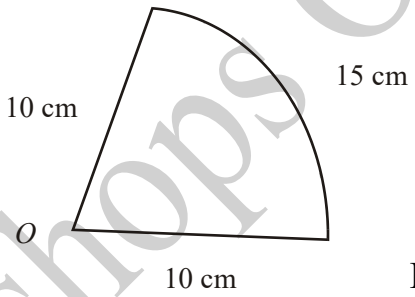


Diagram **NOT** accurately drawn

The diagram shows a sector of a circle, centre O, radius 10 cm.
The arc length of the sector is 15 cm.

Calculate the area of the sector.

..... cm^2

(Total 4 marks)

3.

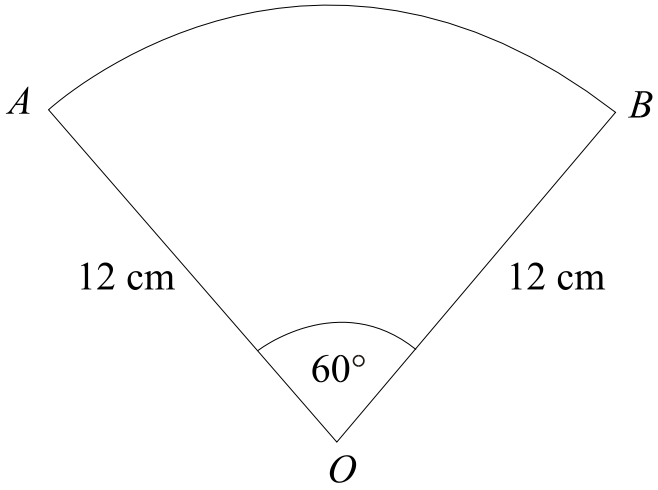


Diagram **NOT** accurately drawn

OAB is a sector of a circle, centre *O*.
Angle *AOB* = 60º.
OA = *OB* = 12 cm.

Work out the length of the arc *AB*.
Give your answer in terms of π.

..... cm

(Total 3 marks)

4.

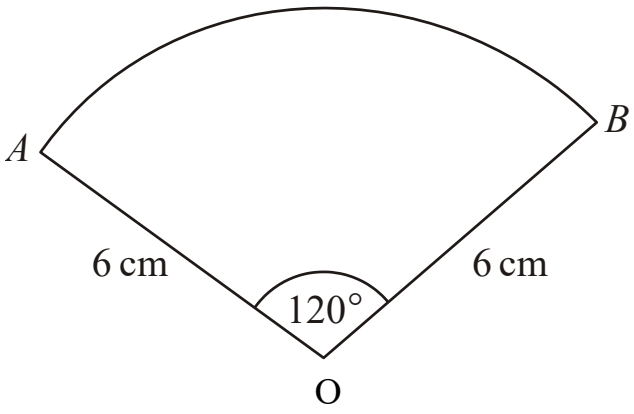


Diagram **NOT** accurately drawn

The diagram shows a sector of a circle, centre *O*.
The radius of the circle is 6 cm.
Angle *AOB* = 120°.

Work out the **perimeter** of the sector.
Give your answer in terms of π in its simplest form.

..... cm

(Total 3 marks)

5.

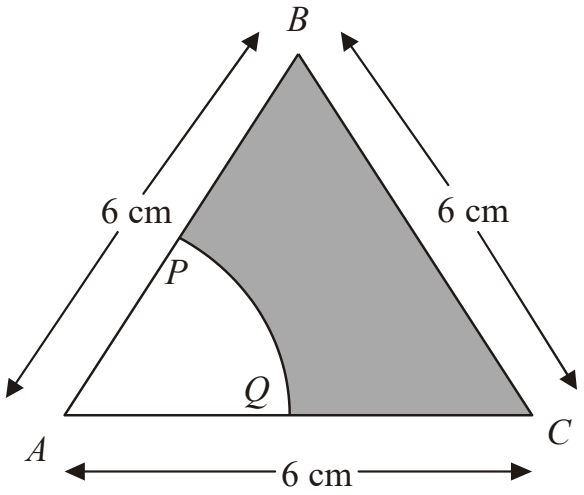


Diagram **NOT** accurately drawn

The diagram shows an equilateral triangle *ABC* with sides of length 6 cm.

P is the midpoint of *AB*.
Q is the midpoint of *AC*.
APQ is a sector of a circle, centre *A*.

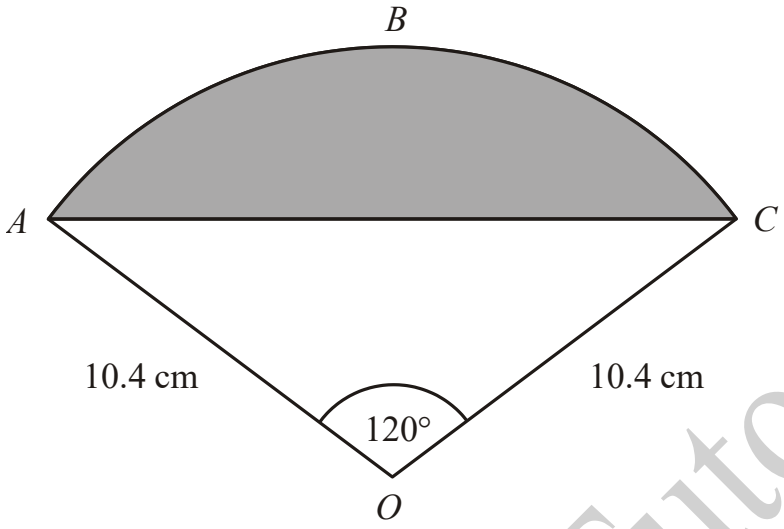
Calculate the area of the shaded region.
Give your answer correct to 3 significant figures.

..... cm^2

(Total 4 marks)

6.

Diagram **NOT** accurately drawn



The diagram shows a sector $OABC$ of a circle with centre O.
$OA = OC = 10.4$ cm. Angle
$AOC = 120°$.

(a) Calculate the length of the arc ABC of the sector.
Give your answer correct to 3 significant figures.

.....cm

(3)

(b) Calculate the area of the shaded segment ABC.
Give your answer correct to 3 significant figures.

.....cm^2

(4)

(Total 7 marks)

7. The diaram shows a sector of a circle with centre *O*. The radius of the circle is 8 cm.

PRS is an arc of the circle.
PS is a chord of the circle.
Angle *POS* = 40°

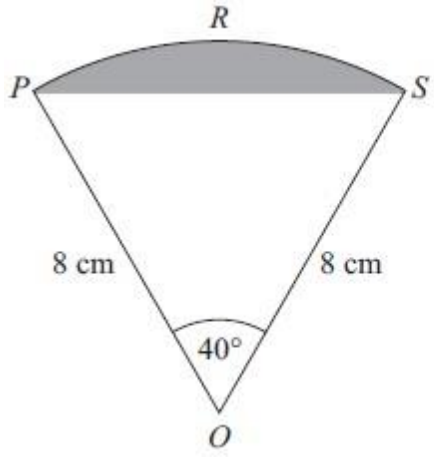


Diagram **NOT** accurately drawn

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

..... cm^2

(Total 5 marks)

8.

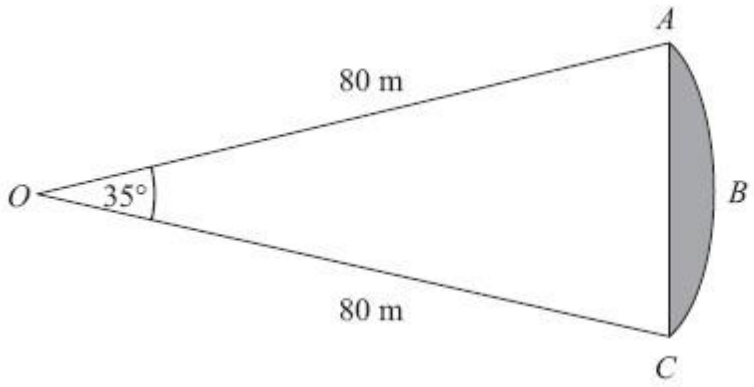


Diagram **NOT** accurately drawn

ABC is an arc of a circle centre *O* with radius 80 m.
AC is a chord of the circle.
Angle *AOC* = 35°.

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

..... m^2

(Total 5 marks)