Cycle 1 mock exam preparation: Aiming for a grade 9 (higher)

W/C Monday 6 October

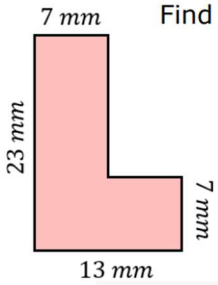
Revision timetable:

	Monday 6 October	Tuesday 7 October	Wesdnesday 8 October	Thursday 9 October	Friday 10 October	Saturday 11 October	Sunday 12 October
Aiming for a grade 9: higher	• Perimeter (inc circumference of circles)	• Area of quadrilaterals, triangles and circles	• Mixed area and perimeter (inc worded problems)	• Arc length of sectors	• Area of sectors	• Mixed area and arc lengths of sectors	• Mixed shape problems

Notes

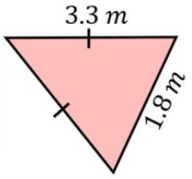
- 20 marks = 20 minutes (time yourself!)
- Show all of your working out
- Use the link to CorbettMaths to look at videos to support

1. Find the perimeter.



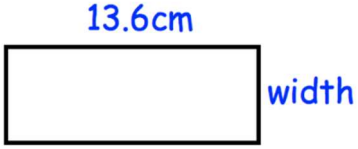
(3 marks)

2. Find the perimeter of the triangle.



(2 marks)

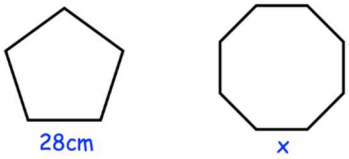
3. The length of a rectangle is 13.6 cm
The perimeter of the rectangle is 37.8cm



Calculate the width of the rectangle.

(3 marks)

4. Shown below is a regular pentagon and a regular octagon.

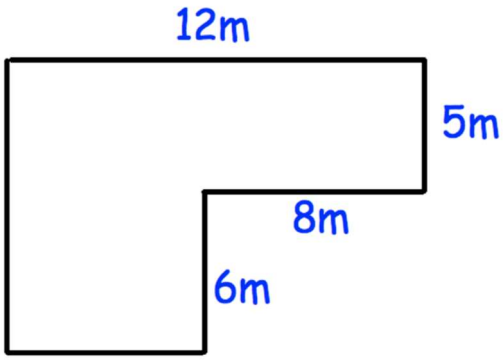


The perimeter of the pentagon is equal to the perimeter of the octagon.

Find x.

(2 marks)

5. Mr Jones is a chicken farmer.

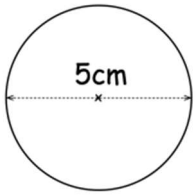


He wants to build a new fence around the chicken enclosure.
Each metre of fencing will cost £7.99

Work out the cost of the new fence.

(4 marks)

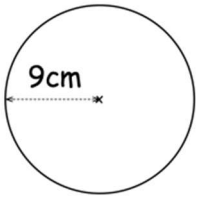
6. Shown below is a circle with diameter 5cm.



Calculate the circumference of the circle.
Give your answer to 1 decimal place.

(2 marks)

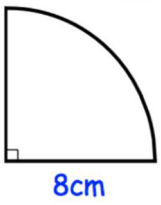
7. Shown below is a circle with radius 9cm.



Work out the circumference of the circle.
Give your answer to 1 decimal place.

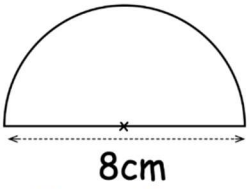
(2 marks)

8. Calculate the perimeter of the sector to 1dp.



(3 marks)

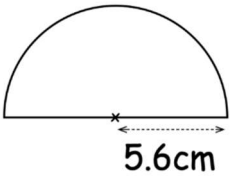
9. A semicircle is shown below.



Work out the perimeter of the semicircle.

(3 marks)

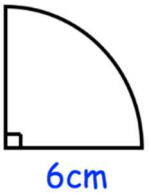
10. A semicircle has radius 5.6cm



Work out the perimeter of the semicircle.

(3 marks)

11. Shown below is a quarter circle.



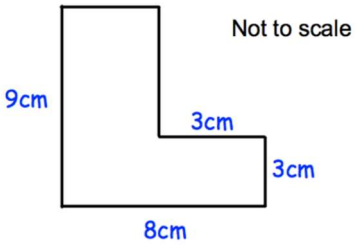
(a) Work out the length of the arc.
Give your answer in terms of π

(2 marks)

(b) Work out the perimeter of the quarter circle.
Give your answer in terms of π

(2 marks)

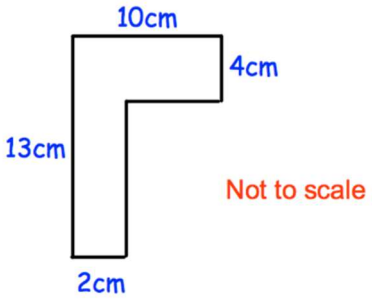
1.



Calculate the area of the shape.

(2 marks)

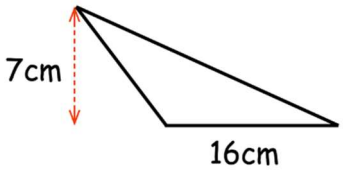
2. Shown is a compound shape.



Calculate the area of the shape.

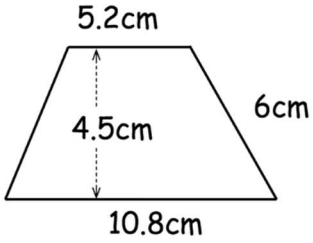
(3 marks)

4. Find the area of the triangle. State your units.



(3 marks)

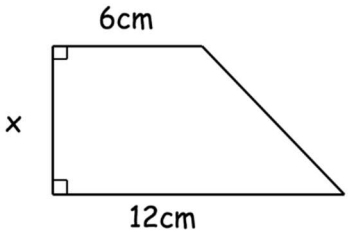
5. Shown below is a trapezium.



Calculate the area of the trapezium.

(3 marks)

6.



The area of the trapezium is 63cm².

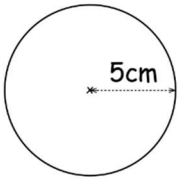
Work out the value of x.

(3 marks)

6. Shown is a circle with radius 5cm.

Work out the area of the circle.

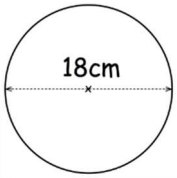
State the units for your answer.
Give your answer to 2 decimal places.



(2 marks)

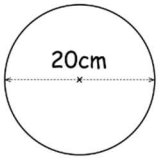
7. A circle has a diameter of 18cm.

State the units for your answer.
Give your answer to 2 decimal places.



(2 marks)

8. A circle has a diameter of 20cm.



Work out the area of the circle.

State the units for your answer.
Give your answer to 2 decimal places.

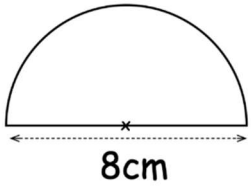
(2 marks)

9. A circle has radius 3cm.

Work out the area of the circle.
Give your answer in terms of π

(2 marks)

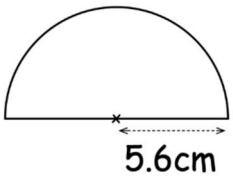
11. A semicircle is shown below.



Work out the area of the semicircle.
Give your answer to 1 decimal place.

(2 marks)

10. A semicircle has radius 5.6cm

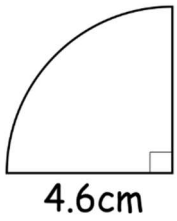


Work out the area of the semicircle.
Give your answer to 1 decimal place.

(2 marks)

11. Shown below is a quarter-circle with a radius of 4.6cm

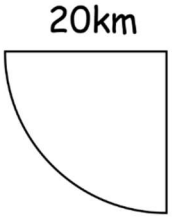
Work out the area.
Give your answer to 1 decimal place.



(3 marks)

12. Shown below is a quarter-circle with radius 20km.

Work out the area of the quarter-circle.
Leave your answer in terms of π



(3 marks)

A square has an area of 64 cm^2.

64 cm^2

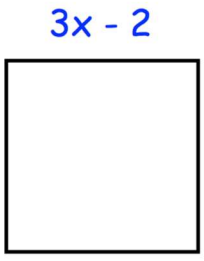
1.

2. The width of a rectangle is 28cm
The area of the rectangle is 1540cm²

Work out the length of the rectangle.

(2 marks)

3. A square is shown below.

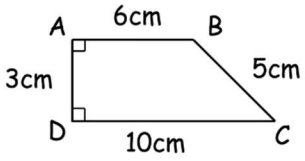


Write an expression for the perimeter of the square.

(2 marks)

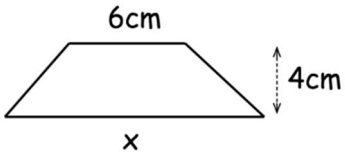
4. Below is a trapezium, ABCD.

Work out the area of the trapezium.



(2 marks)

5.

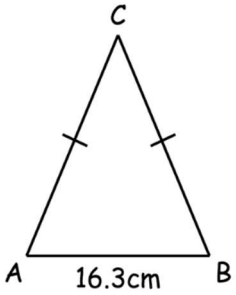


The area of the trapezium is 34cm².

Work out the value of x.

(2 marks)

6. ABC is an isosceles triangle.



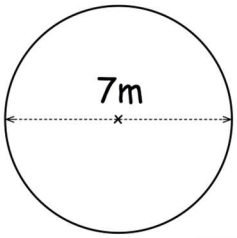
The perimeter of triangle ABC is 70cm

Work out the length of side AC.

(2 marks)

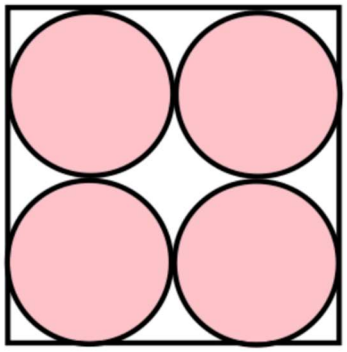
7. A circular flower bed has diameter 7 metres.

Work out the area of the flower bed.
Give your answer correct to 1 decimal place.



(3 marks)

8. A logo is designed that has four pink circles within a white square.

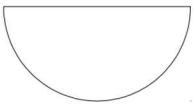


The square has side length 16cm.

Find the area of the logo that is white.

(4 marks)

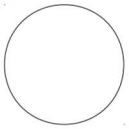
9. A semi-circle has an area of 50 m^2.



Find the perimeter of the semi-circle.
Give your answer correct to one decimal place.

(3 marks)

10. A circular field has a diameter of 32 metres.
A farmer wants to build a fence around the edge of the field.

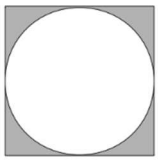


Each metre of fence will cost £15.95

Work out the total cost of the fence.

(3 marks)

11. A circle is enclosed by a square as shown in the diagram.



Each side of the square measures 8cm.

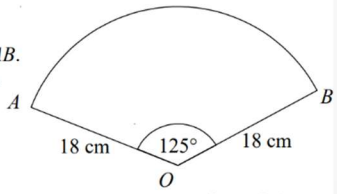
Find the area of the shaded region.

Give your answer correct to 1 decimal place.

(3 marks)

1. AOB is a sector of a circle, centre O and radius 18 cm.
The angle of the sector is 125°.

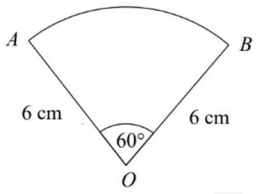
Calculate the length of the arc AB.
Give your answer in terms of π.



(2 marks)

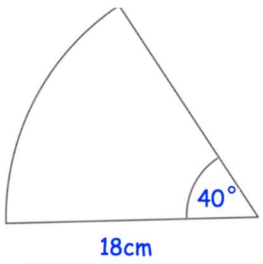
2. AOB is a sector of a circle, centre O and radius 6 cm.
The angle of the sector is 60°.

Find the length of the arc AB.
Give your answer in terms of π.



(2 marks)

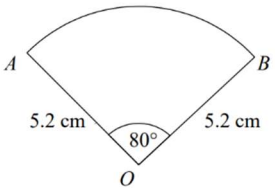
3. Find the length of the arc, giving your answer in terms of π



(2 marks)

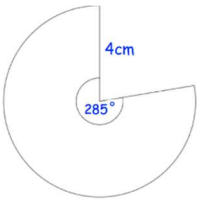
4. AOB is a sector of a circle, centre O and radius 5.2 cm.
The angle of the sector is 80°.

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



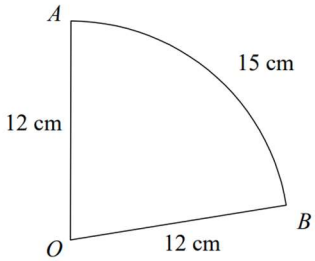
(2 marks)

5. Calculate the perimeter of the sector. Leave your answer to 1dp.



(3 marks)

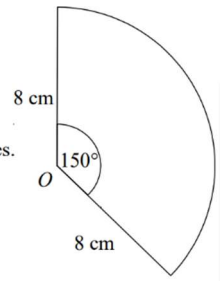
6. AOB is a sector of a circle, centre O and radius 12 cm.
The length of arc AB is 15 cm.
Find the area of the sector.



(3 marks)

1. The diagram shows a sector, centre O.
The radius of the circle is 8 cm.
The angle of the sector is 150°.

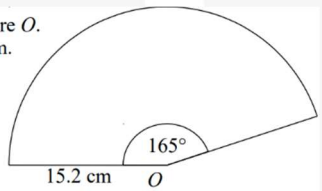
Calculate the area of the sector.
Give your answer correct to 3 significant figures.



(2 marks)

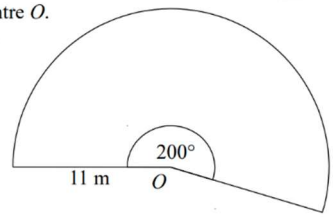
2. The diagram shows a sector, centre O.
The radius of the circle is 15.2 cm.
The angle of the sector is 165°.

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



(3 marks)

3. The diagram shows a sector, centre O.
The radius of the circle is 11 m.
The angle of the sector is 200°.

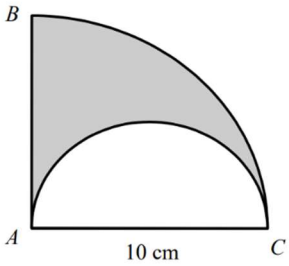


Calculate the area of the sector.
Give your answer correct to 3 significant figures.

(3 marks)

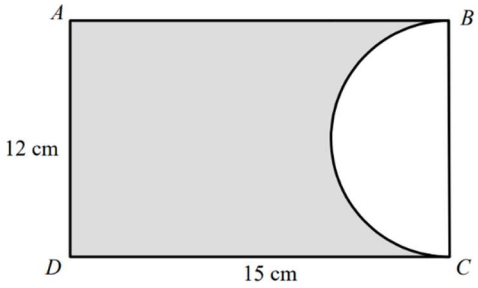
4. BAC is a sector of a circle, centre A.
AC is the diameter of a semi circle.
AC is 10 cm.

Find the area of the shaded region.
Give your answer in terms of π.



(3 marks)

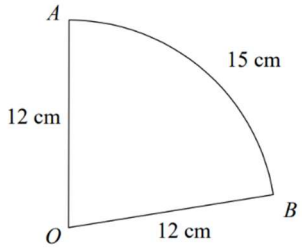
5. The diagram shows a rectangle, $ABCD$, and a semi circle.
BC is the diameter of a semi circle.



Calculate the percentage of the area of the rectangle that is shaded.
Give your answer correct to 1 decimal place.

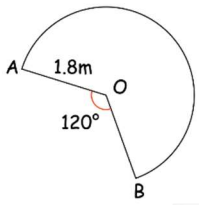
(4 marks)

7. AOB is a sector of a circle, centre O and radius 12 cm.
The length of arc AB is 15 cm.
Find the area of the sector.



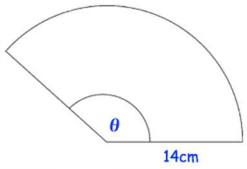
(3 marks)

1. AOB is a sector of a circle, centre O and radius 1.8m.
Calculate the perimeter of sector AOB.



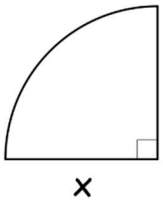
(3 marks)

2. The perimeter of the sector is 57.32cm.
Calculate the size of the angle.



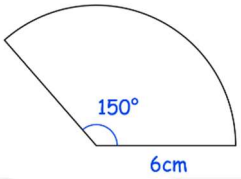
(2 marks)

3. The quarter circle below has an area of 10.75 cm²
Calculate x.



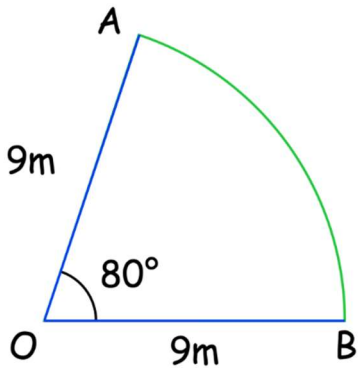
(2 marks)

4. Shown is a sector of a circle.
Find the area of the sector.
Give your answer in terms of π



(3 marks)

5. Maryam's garden is a sector, OAB.
There is a fence going around the outside of the garden.

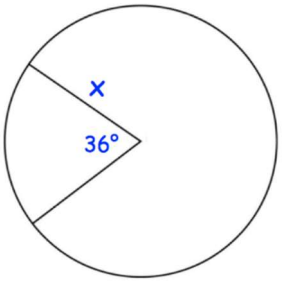


Maryam paints the straight sections of the fence, OA and OB, blue.
She paints the curved section of the fence, arc AB, green.

Work out the percentage of the fence painted green.
Give your answer to 2 decimal places.

(4 marks)

6, The major arc length is 31.1cm.
Find the length of x, the radius of the circle.

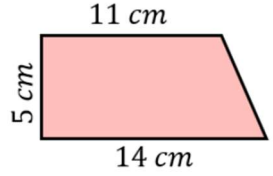


(4 marks)

Area and Perimeter Revision

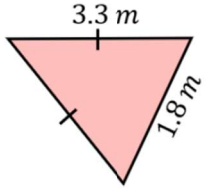
(a)

Find the area.



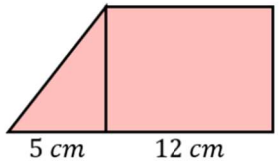
(b)

Find the perimeter of the triangle.



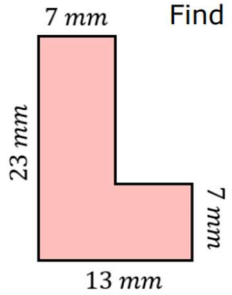
(c)

The area of the triangle is $20\ cm^2$. Find the area of the rectangle.



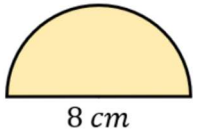
(d)

Find the perimeter.



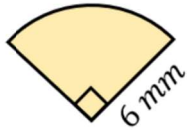
(e)

Find the area of the semi-circle to 1 decimal place.



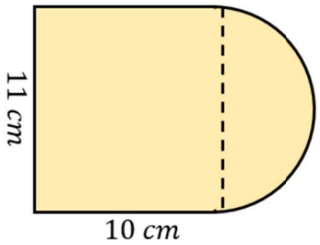
(f)

Find the perimeter to 3 significant figures.



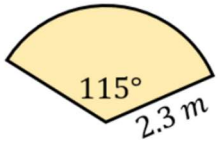
(g)

Find the perimeter to 1 decimal place.



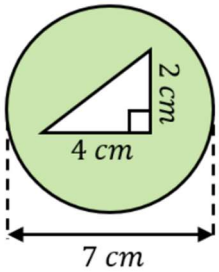
(h)

Find the area, giving your answer to 1 decimal place.



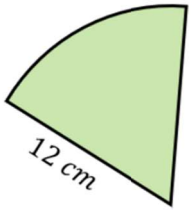
(i)

Work out the area of the shaded region.



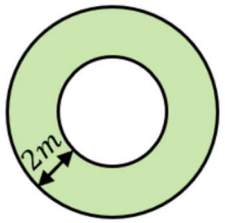
(j)

The area of the sector is $24\pi\ cm^2$. Find the perimeter of the sector in terms of π.



(k)

A circular lawn is surrounded by a path of constant width $2\ m$. The area of the path is $30\pi\ m^2$. Find the area of the lawn in terms of π.



Sunday 5 October