

# FluidMaths

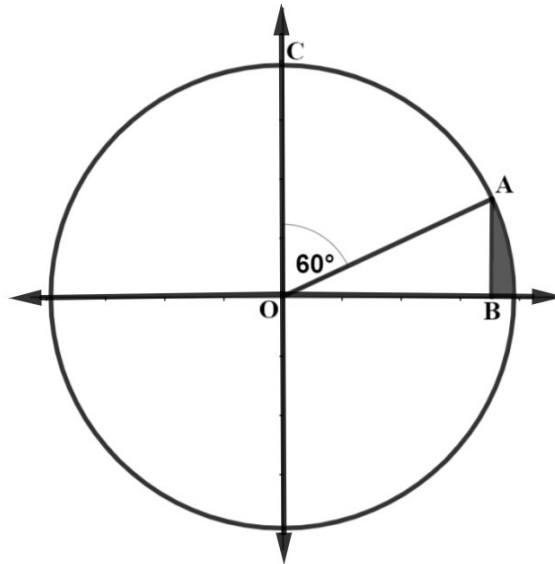
GCSE Mathematics (Grade 9-1)

Problem Solving  
Trig Set 2  
SOHCAHTOA  
Questions

## Some useful strategies in problem-solving

- Read the question carefully
- Sketch a diagram where applicable
- Take note of key information
- Write down any formulae you may need
- Tackle the problem in bite-size rather than as a whole
- Concentrate on the part of the problem you understand and start from there
- Collaborate with a partner and share ideas
- Use a dictionary to find the meaning of any confusing words
- Check that your answers make sense in the context of the question

1 The diagram below shows a circle of radius of 3 cm



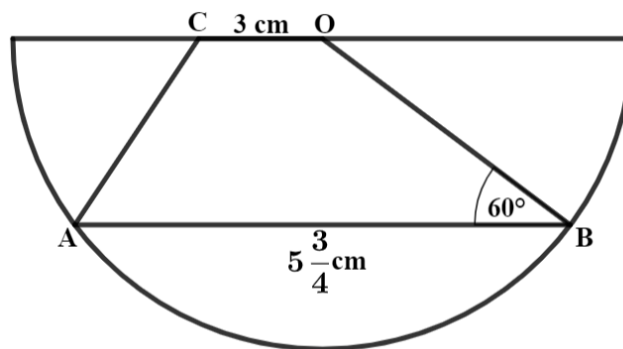
Angle AOC =  $60^\circ$

Angle ABO =  $90^\circ$

Calculate the shaded area to 1 decimal place

[4marks]

2 A trapezium ABOC is drawn inside a semi-circle as shown



The area of the trapezium is  $26.25 \text{ cm}^2$

OB is the radius of the semi-circle.

$OC = 3 \text{ cm}$

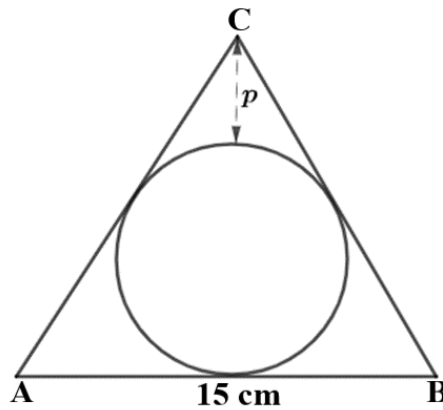
$AB = 5 \frac{3}{4} \text{ cm}$

Angle OBA =  $60^\circ$

Calculate the area of the semi-circle to 3 significant figures

[5marks]

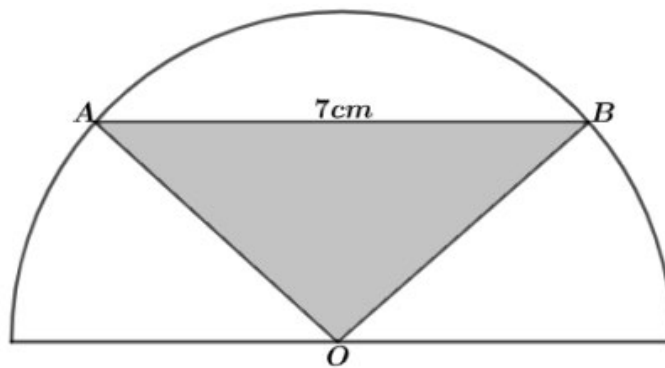
3 ABC is an equilateral triangle of side 15 cm



A circle of area  $27\pi \text{ cm}^2$  is drawn inside the triangle  
 Calculate the value of  $p$ .  
 Give your answer to 1 decimal place

[4marks]

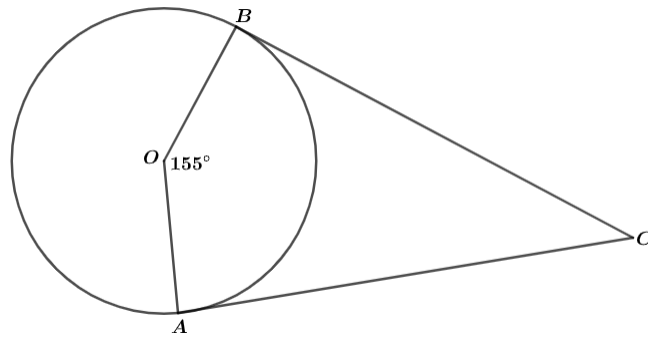
4 A semi-circle of area  $32 \text{ cm}^2$  and centre O is shown below



ABC is an isosceles triangle where  $AO = BO$   
 $AB = 7 \text{ cm}$ .  
 Calculate the area of the shaded triangle.  
 Give your answer to 2 decimal places.

[5marks]

5 A circle of centre  $O$  is shown below



The area of the circle is  $65 \text{ cm}^2$

$ACBO$  is a quadrilateral

$AC$  and  $BC$  are tangents to the circle

Calculate the distance  $OC$

Give your answer to the nearest whole number

**[3marks]**