FluidMaths

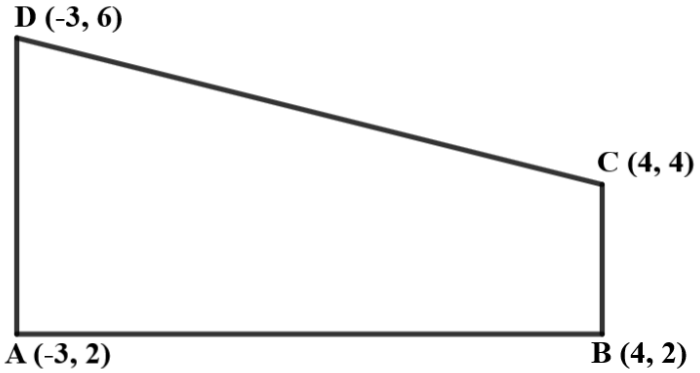
GCSE Mathematics (Grade 9-1)

Problem Solving
Trig Set 1
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

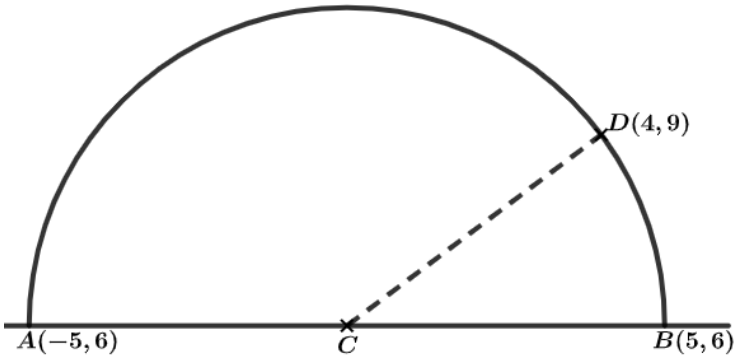
1 ABCD is a trapezium



A has coordinates $(-3, 2)$
B has coordinates $(4, 2)$
C has coordinates $(4, 4)$
D has coordinates $(-3, 6)$
Calculate angle ADC to the nearest degree

[4marks]

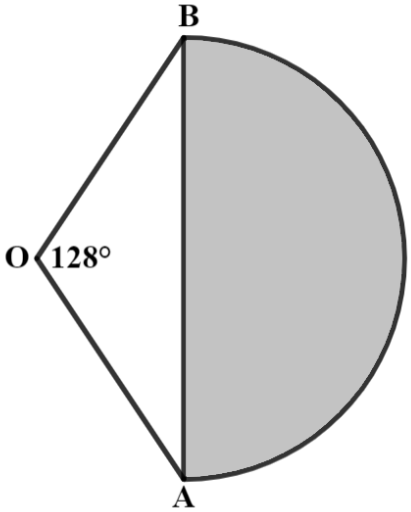
2 A semi-circle is shown below



AB is the diameter of the semi-circle and C is the centre
A has coordinates $(-5, 6)$
B has coordinates $(5, 6)$
D is on the circumference of the semi-circle and has coordinates $(4, 9)$
Calculate the length of the arc BD to 1 decimal place.

[4marks]

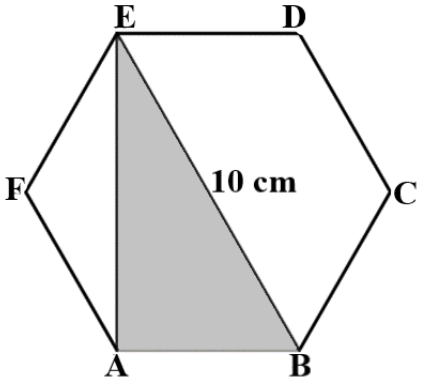
3 ABO is an isosceles triangle
A semi-circle is drawn to the side AB



AO = BO
Angle AOB = 128°
The area of the semi-circle is 66 cm^2
Calculate the perimeter of the shape
Give your answer to 3 significant figures.

[5marks]

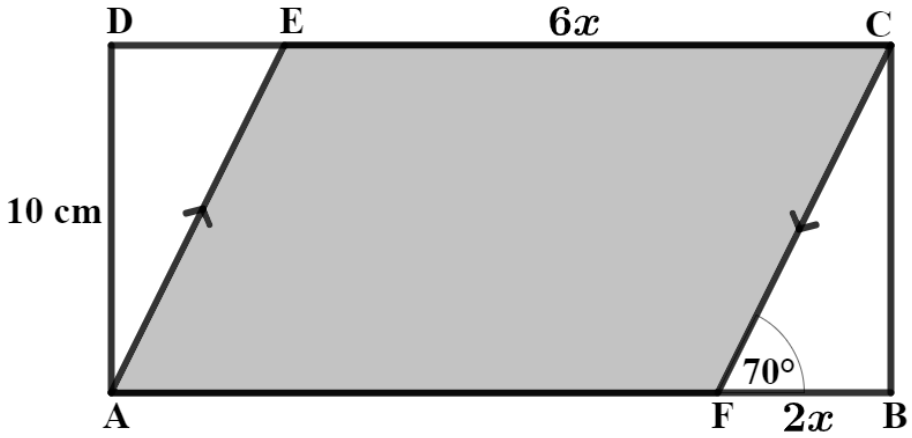
4 ABCDEF is a regular hexagon
ABE is a right-angled triangle



BE = 10 cm
Calculate the perimeter of the hexagon

[4marks]

5 ABCD is a rectangle



AD = 10 cm
EC = $6x$
FB = $2x$
Angle CFB = 70°
Calculate the area of the parallelogram AFCE
Give your answer to 3 significant figures.

[5marks]