FluidMaths

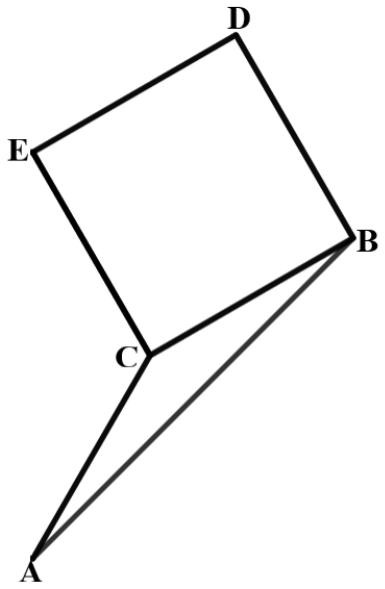
GCSE Mathematics (Grade 9-1)

Problem Solving
Angles Set 3
Polygons – 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

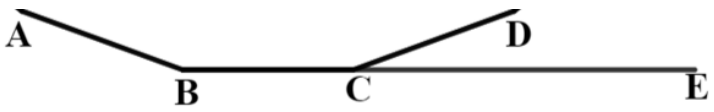
1 ABC is an isosceles triangle where AC = BC
BCDE is a square



Angle ABC is 15°
AC and CE are sides of a regular polygon
How many sides does the polygon have?

[3marks]

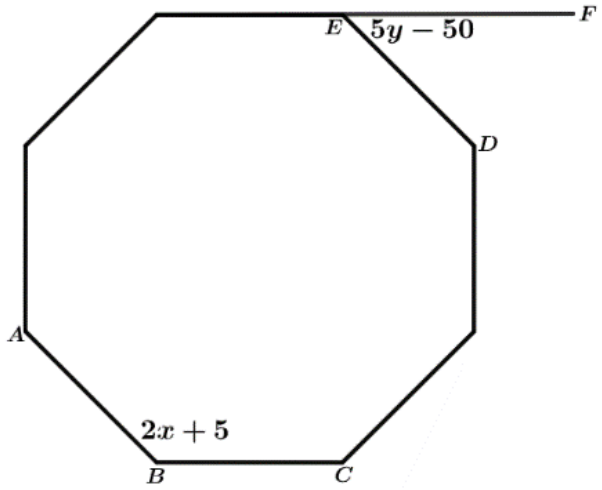
2 ABCD is part of a regular polygon



BCE is a straight line
The ratio of angle BCD to angle DCE is 9:1
How many sides does the polygon have?

[2marks]

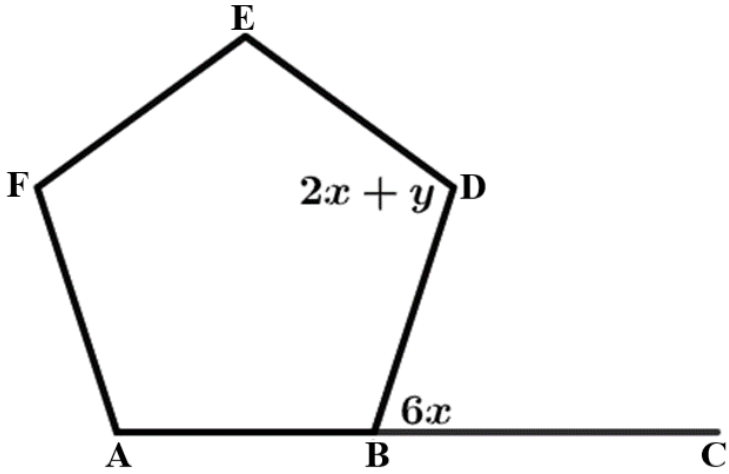
3 A regular octagon is shown below



Angle ABC $= 2x + 5$
Angle FED $= 5y - 50$
Calculate the values of x and y

[4marks]

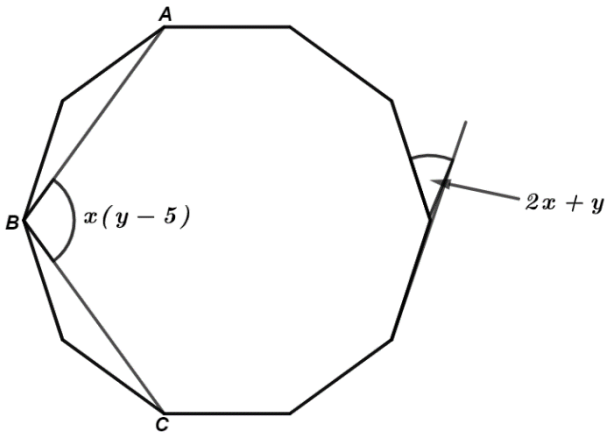
4 ABDEF is a regular pentagon



Angle BDE $= 2x + y$
Angle CBD $= 6x$
ABC is a straight line
Calculate the values of x and y.

[5marks]

5 The diagram below shows a regular decagon.



Angle ABC $= x(y-5)$
The exterior angle of the decagon is $2x+y$
Find the values of x and y
Give your answers to 3 significant figures

[6marks]