FluidMaths

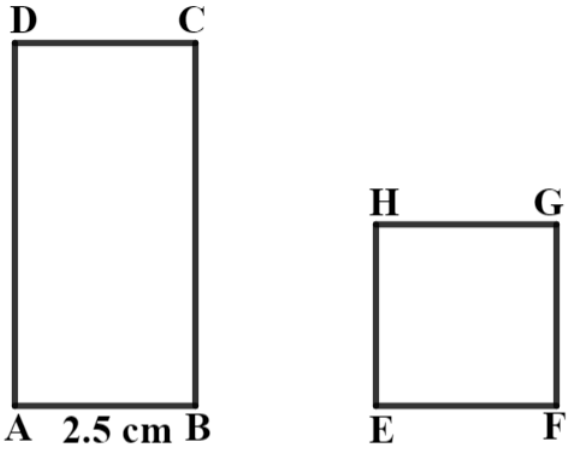
GCSE Mathematics (Grade 9-1)

Problem Solving
Area and Perimeter Set 1 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

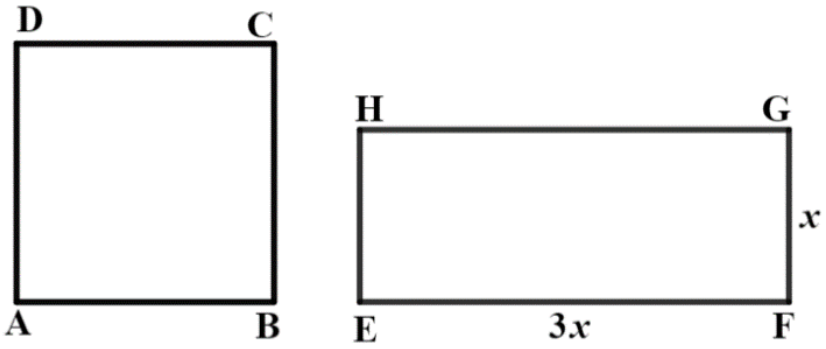
1 ABCD is a rectangle
EFGH is a square



AB = 2.5 cm
The perimeter of the square is 20 cm
The rectangle and the square have the same area
Calculate the perimeter of the rectangle.

[4marks]

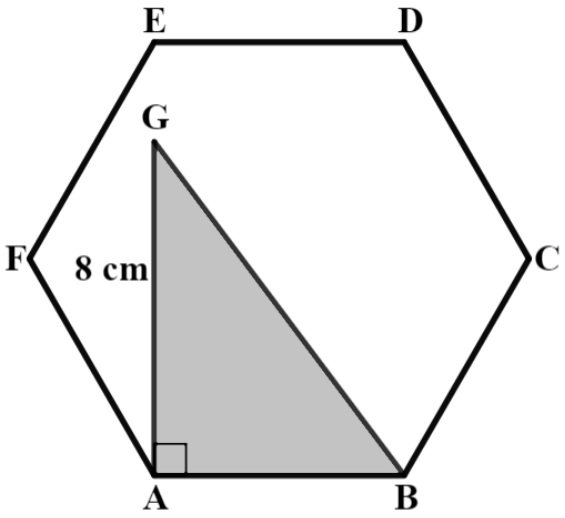
2 ABCD is a square
EFGH is a rectangle



EF = $3x$
FG = x
The area of the square is 81 cm^2
The square and the rectangle have the same perimeter.
Calculate the value of x.

[4marks]

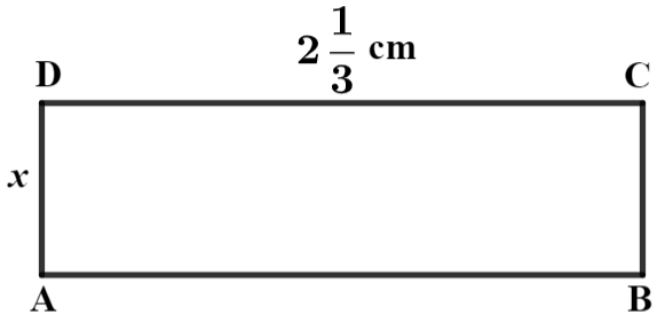
3 ABCDEF is a regular hexagon
ABG is a right-angled triangle



AG = 8 cm
The area of the triangle is 22 cm^2
Calculate the perimeter of the hexagon

[3marks]

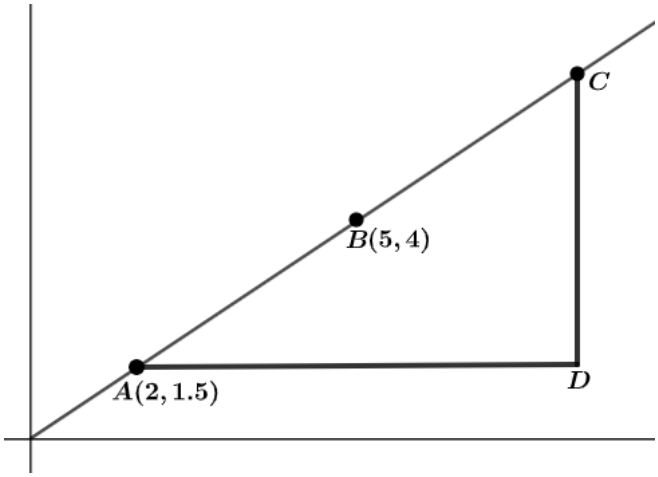
4 Here is rectangle ABCD



CD = $2\frac{1}{3}$ cm
AD = x
The perimeter of the rectangle is $6\frac{1}{4}$ cm
Calculate the value of x.
Give your answer as a fraction in its simplest form

[5marks]

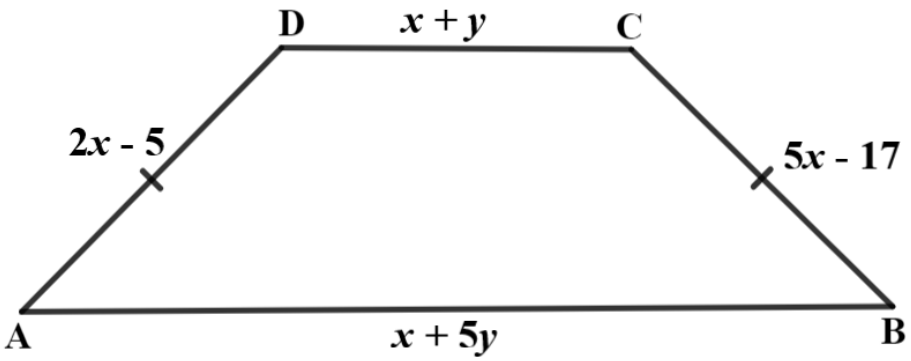
5 The diagram below shows the line AC



A has coordinates (2, 1.5)
B has coordinates (5, 4)
B is the midpoint between A and C
Calculate the area of triangle ADC

[6marks]

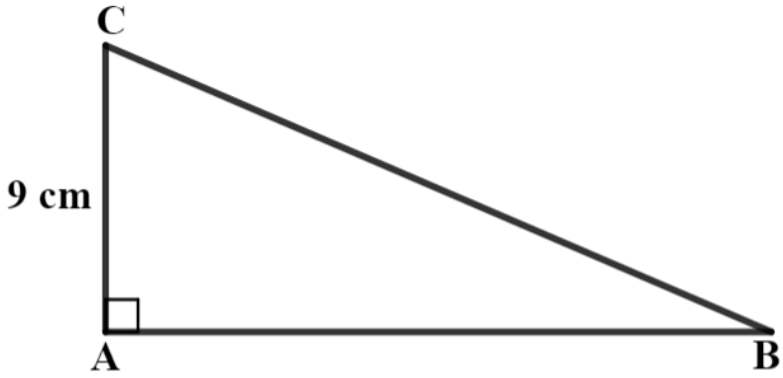
6 ABCD is an isosceles trapezium



AD = BC
AB = 3DC
All measurements are in centimeters
Calculate the perimeter of the trapezium.

[5marks]

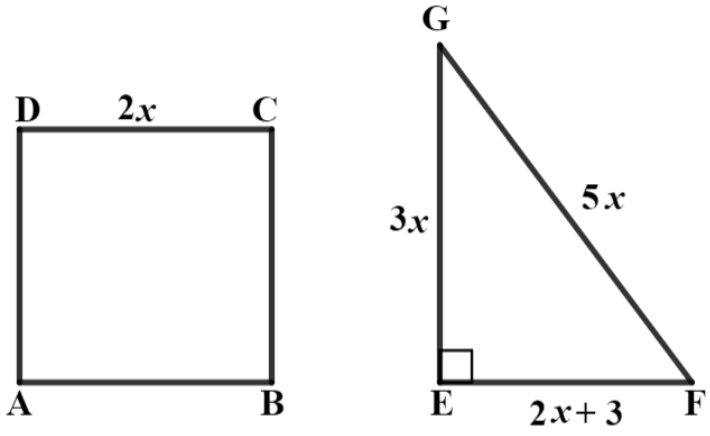
7 ABC is a right-angled triangle



AC = 9 cm
The area of the triangle is 49.5 cm^2
Calculate the perimeter of the triangle
Give your answer to 1 decimal place

[5marks]

8 ABCD is a square of side $2x$
EFG is a right-angled triangle



EF = $2x + 3$
FG = $5x$
EG = $3x$
The perimeter of the triangle is 42 cm
Calculate the area of the square.

[5marks]