

FluidMaths

GCSE Mathematics (Grade 9-1)

Problem Solving

Angles Set 2

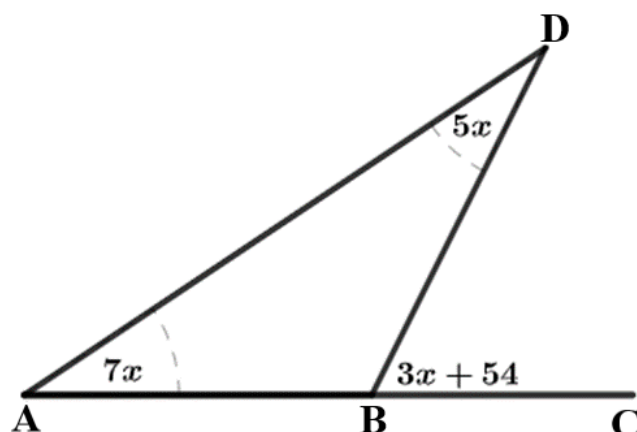
Triangles and Quadrilaterals

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 Triangle ABD is shown below.



Angle CBD = $3x + 54$

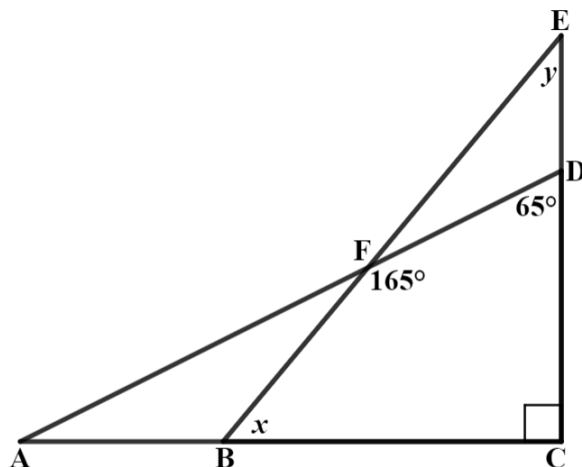
Angle BDA = $5x$

Angle BAD = $7x$

Calculate the value of x

[3marks]

2 The diagram shows triangles ACD and BCE



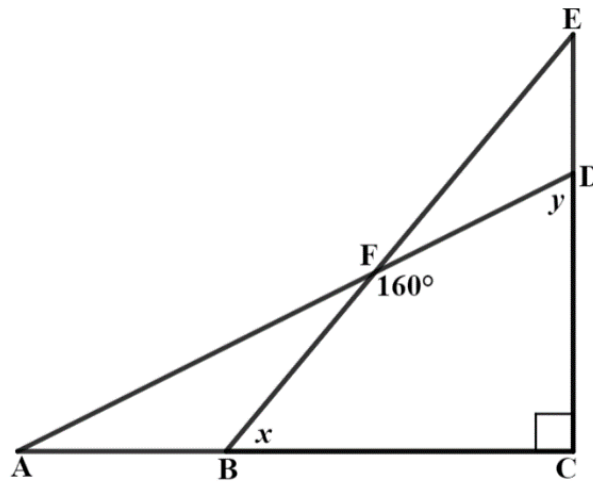
Angle CDF = 165°

Angle BDC = 65°

Calculate the ratio of $x : y$ in its simplest form.

[3marks]

3 Two right-angled triangles ACD and CDE are shown below.



Angle $FBC = x$

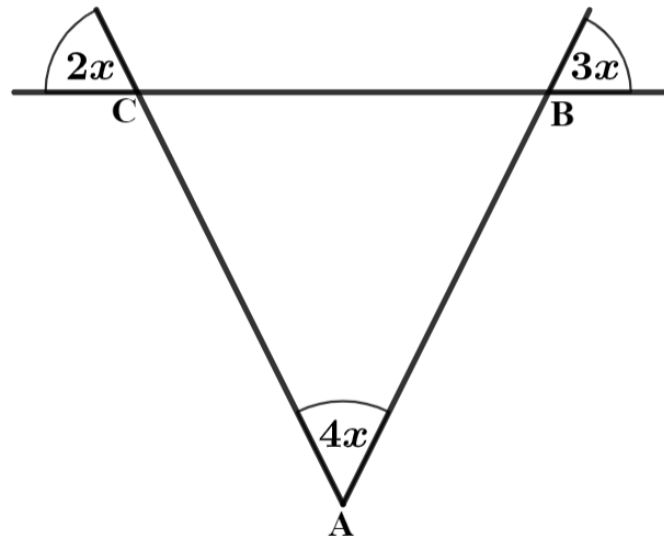
Angle $CDF = y$

Angle $BFD = 160^\circ$

If the ratio of $x : y = 3 : 2$, calculate the values of x and y .

[3marks]

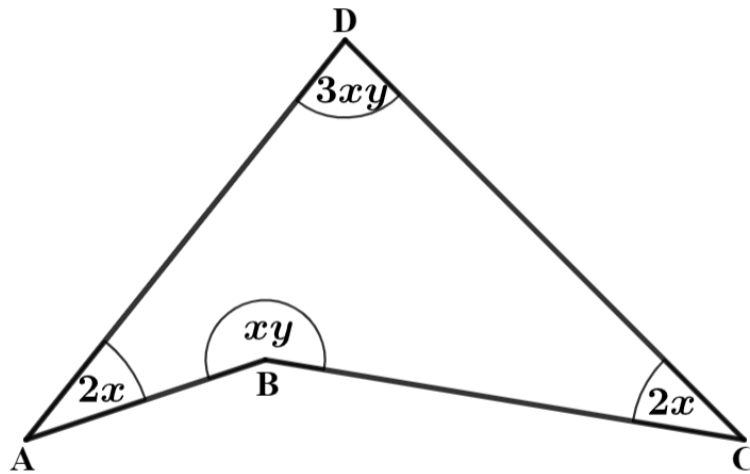
4 ABC is a triangle



Calculate the value of x

[2marks]

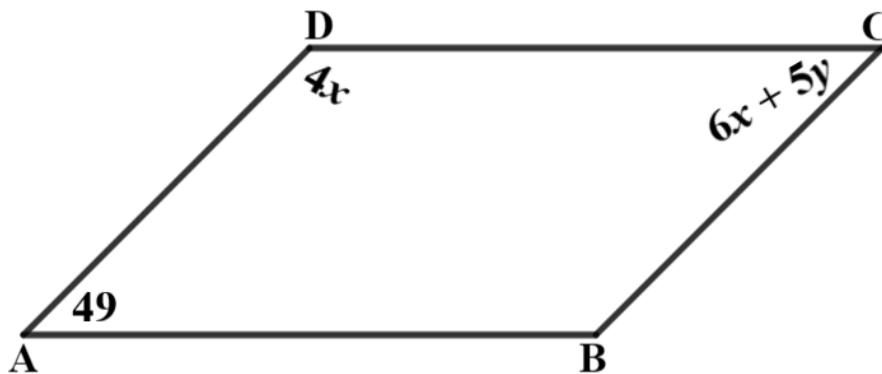
5 ABCD is a quadrilateral



Find an expression for y in terms of x
Give your answer as simplified as possible

[3marks]

6 ABCD is a parallelogram



Angle BAD = 49°

Angle BCD = $6x + 5y$

Angle ADC = $4x$

Calculate the values of x and y

[5marks]