Name	Class

♟ MATHS TEACHER HUB

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Angles in parallel lines
(9 – 1) Topic booklet
Higher

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions
•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•Answer **all** questions.
•Answer the questions in the spaces provided
 – *there may be more space than you need*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1H** question you are not allowed to use a calculator.
•If the question is a **2H** or a **3H** question, you may use a calculator to help you answer.

Information
•The marks for **each** question are shown in brackets
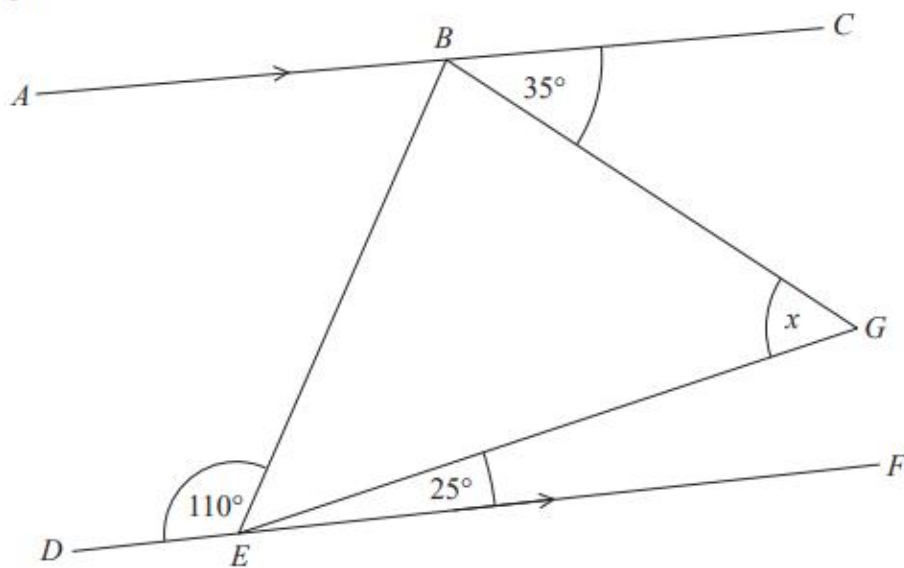 – *use this as a guide as to how much time to spend on each question*.

Advice
•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.
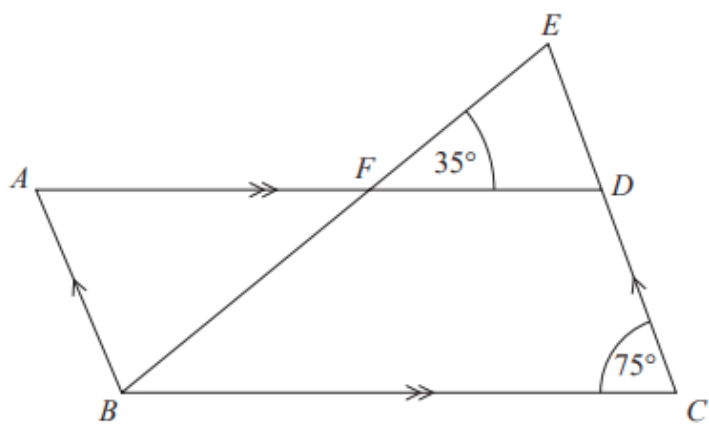
3   *BEG* is a triangle.

ABC and *DEF* are parallel lines.

Work out the size of angle *x*.
Give a reason for each stage of your working.

3

ABCD is a parallelogram.
EDC is a straight line.
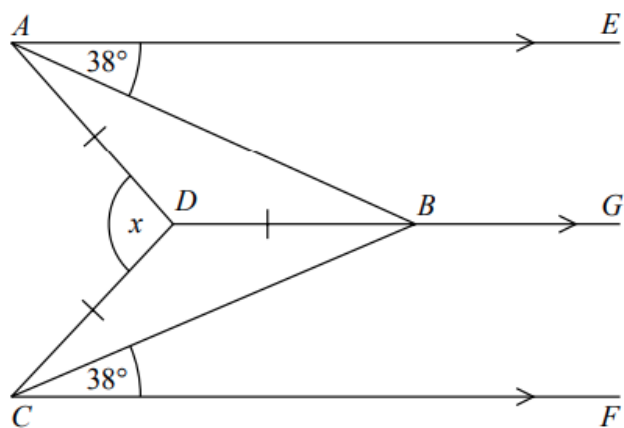*F* is the point on *AD* so that *BFE* is a straight line.

Angle *EFD* = 35°
Angle *DCB* = 75°

Show that angle *ABF* = 70°
Give a reason for each stage of your working.

3

AE, DBG and CF are parallel.
DA = DB = DC.
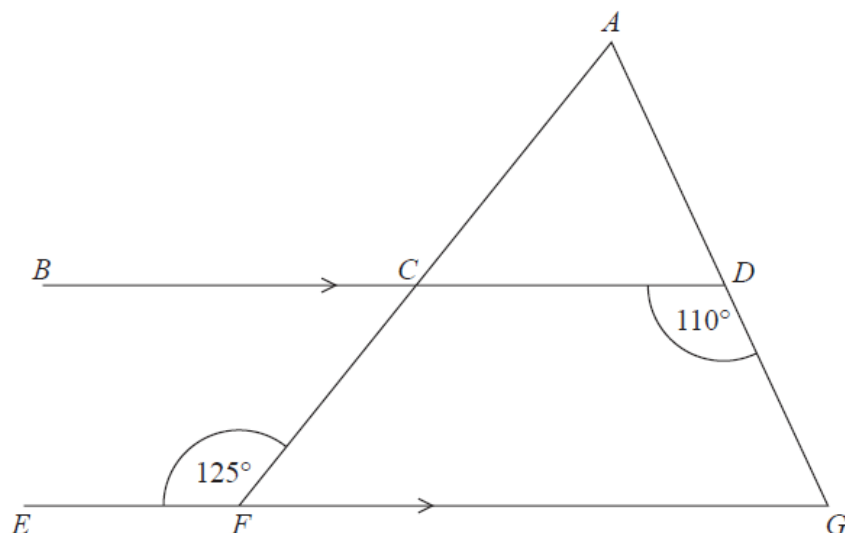Angle EAB = angle BCF = 38°

Work out the size of the angle marked x.
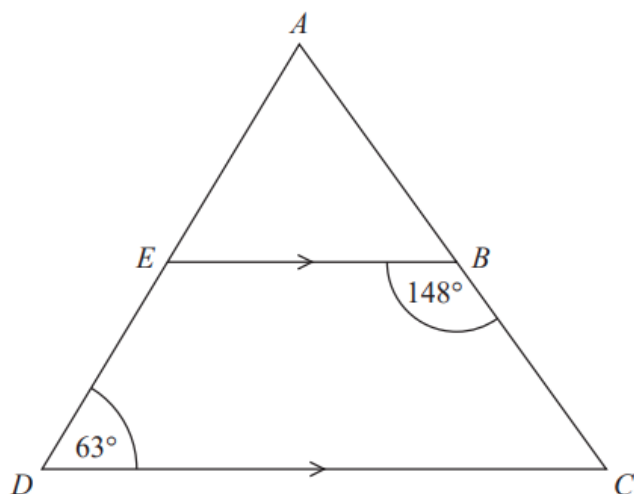You must show your working.

(Total for Question 3 is 3 marks)

3 ACF and ADG are straight lines.
   BCD and EFG are parallel lines.

Show that triangle ACD is isosceles.
Give a reason for each stage of your working.

(Total for Question 3 is 5 marks)

6 *ADC* is a triangle.

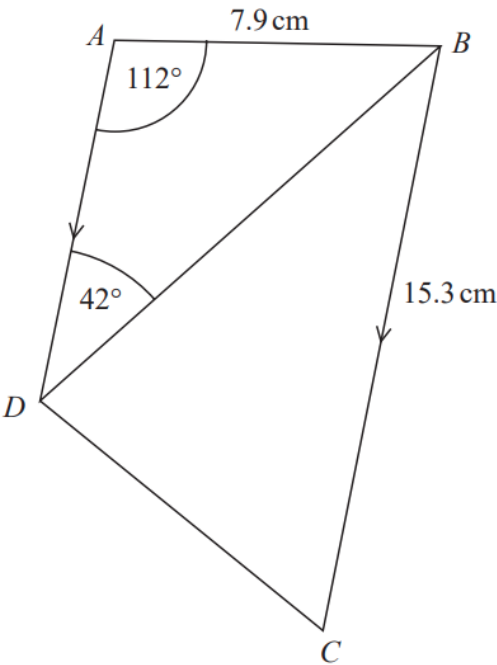*AED* and *ABC* are straight lines.
EB is parallel to *DC*.

Angle *EBC* = 148°
Angle *ADC* = 63°

Work out the size of angle *EAB*.
You must give a reason for each stage of your working.

16 *ABCD* is a trapezium.

AD is parallel to *BC*.

Calculate the area of triangle *BCD*.
Give your answer correct to 1 decimal place.

.... cm²

(Total for Question 16 is 4 marks)