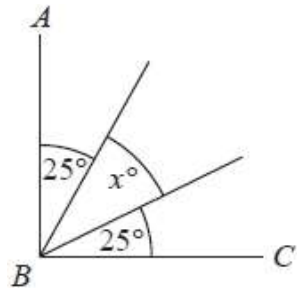


GCSE QUESTIONS

Q1. NON-CALCULATOR



AB and BC are perpendicular lines.

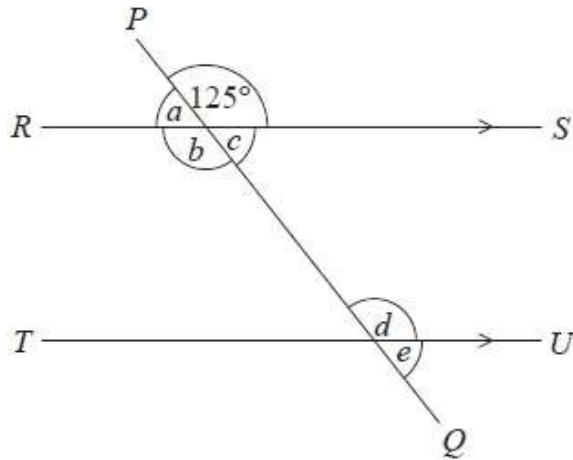
(a) Find the value of x .

$x = \dots\dots\dots$

(2)

RS and TU are parallel lines.

PQ is a straight line.



An angle of size 125° is shown on the diagram.

(b) (i) Write down the letter of one other angle of size 125°
Give a reason for your answer.

.....
.....

(ii) Explain why $a + b + c = 235^\circ$

(2)

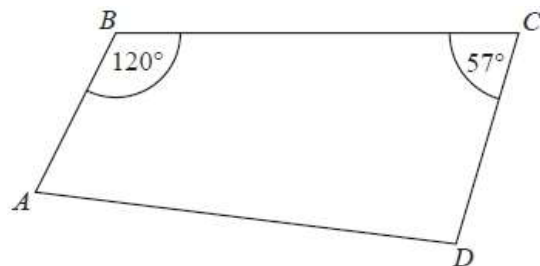
.....
.....
.....

(1)

(Total for question = 5 marks)

Q2. NON-CALCULATOR

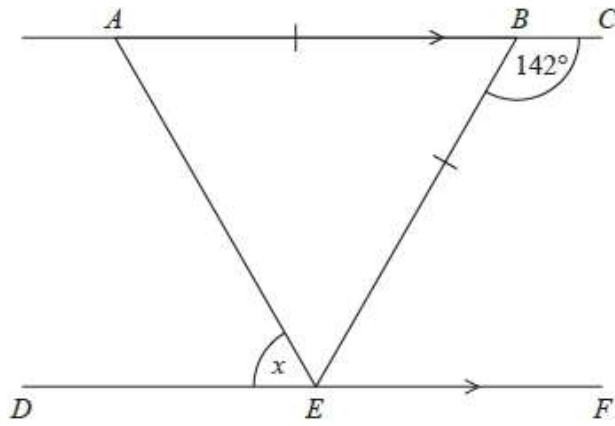
The diagram shows a quadrilateral $ABCD$.



Is AB parallel to DC ? You must give your reasoning.

(Total for question = 3 marks)

Q3. NON-CALCULATOR



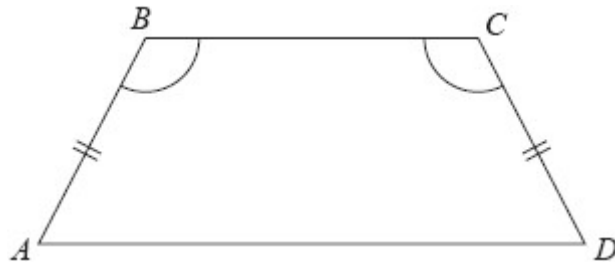
BC and DEF are parallel straight lines.
 ABE is an isosceles triangle with $AB = BE$.
 Angle $CBE = 142^\circ$

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

.....
 (Total for question = 5 marks)

Q4. NON-CALCULATOR

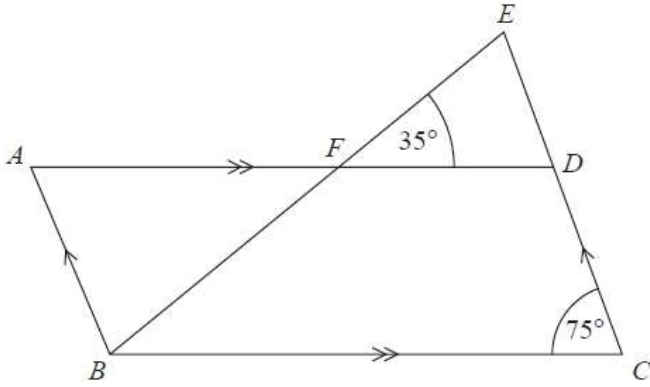
$ABCD$ is a quadrilateral.



$AB = CD$.
 Angle $ABC = \text{angle } BCD$.
 Prove that $AC = BD$.

(Total for question = 4 marks)

Q5. NON-CALCULATOR



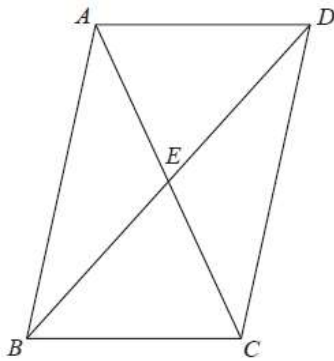
$ABCD$ is a parallelogram.
 EDC is a straight line.
 F is the point on AD so that BFE is a straight line.

Angle $EFD = 35^\circ$
 Angle $DCB = 75^\circ$

Show that angle $ABF = 70^\circ$
 Give a reason for each stage of your working.

(Total for question = 4 marks)

Q6. NON-CALCULATOR

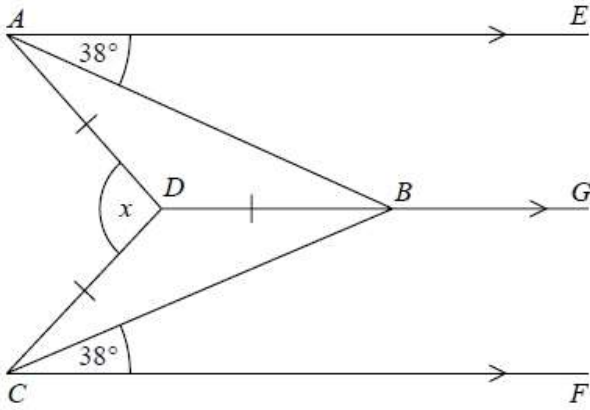


$ABCD$ is a parallelogram.

E is the point where the diagonals AC and BD meet.
 Prove that triangle ABE is congruent to triangle CDE .

(Total for question = 3 marks)

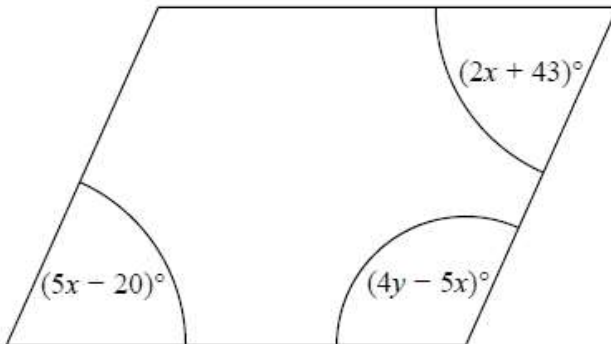
Q7. NON-CALCULATOR



*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 marks)

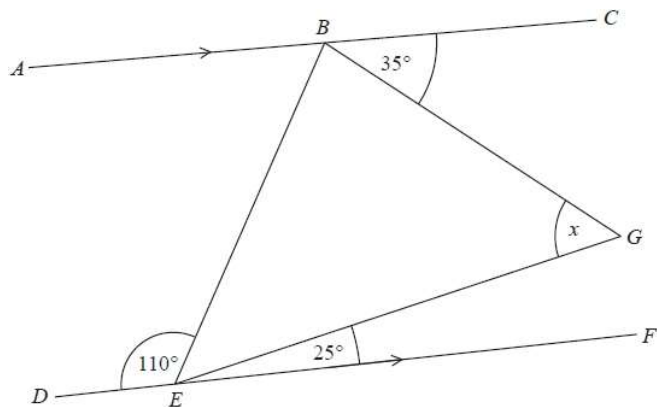
Q8. NON-CALCULATOR



Here is a parallelogram.
 Work out the value of x and the value of y .

$x =$
 $y =$
 (Total for question = 5 marks)

Q9. CALCULATOR ALLOWED



BEG is a triangle.

ABC and *DEF* are parallel lines.

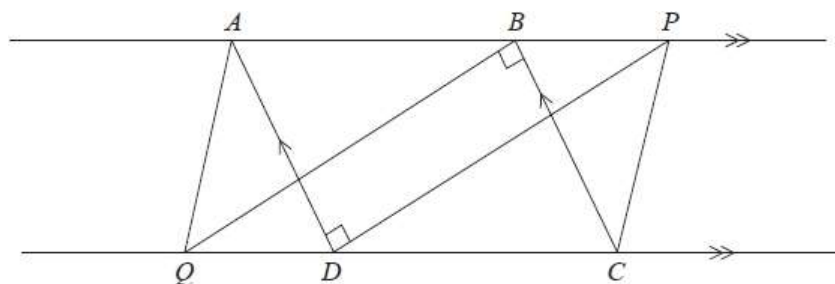
Work out the size of angle *x*.

Give a reason for each stage of your working.

..... °

(Total for question = 4 marks)

Q10. CALCULATOR ALLOWED



ABCD is a parallelogram.

ABP and *QDC* are straight lines.

Angle *ADP* = angle *CBQ* = 90°

(a) Prove that triangle *ADP* is congruent to triangle *CBQ*.

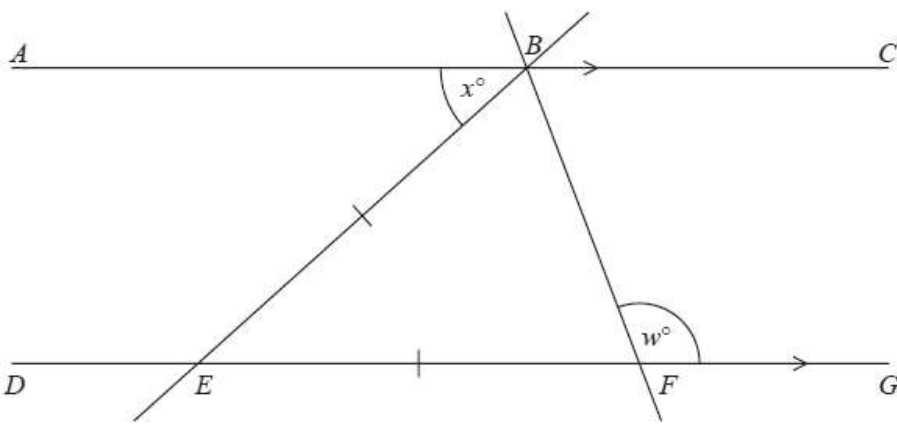
(3)

(b) Explain why *AQ* is parallel to *PC*.

(2)

(Total for question = 5 marks)

Q11. CALCULATOR ALLOWED



In the diagram ABC and $DEFG$ are parallel lines.

Angle $ABE = x^\circ$

$EB = EF$

Show that
$$w = 90 + \frac{1}{2}x$$

Give a reason for each stage of your working.

(Total for question = 4 marks)