Q1.

Mary needs to work out the size of angle *x* in this diagram.
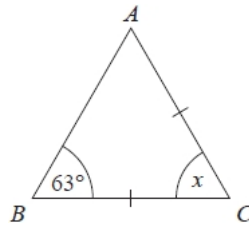
She writes

$x = 63°$ because base angles of an isosceles triangle are equal.
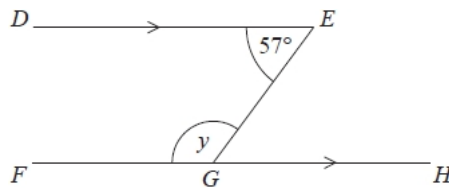
Mary is wrong.

(a) Explain why.

....

....

(1)

William needs to work out the size of angle *y* in this diagram.

William writes

Working	Reason
angle $EGH = 57°$	because corresponding angles are equal
$y = 180° − 57°$ $y = 123°$	because angles on a straight line add up to $180°$

One of William's reasons is wrong.

(b) Write down the correct reason.

....

....

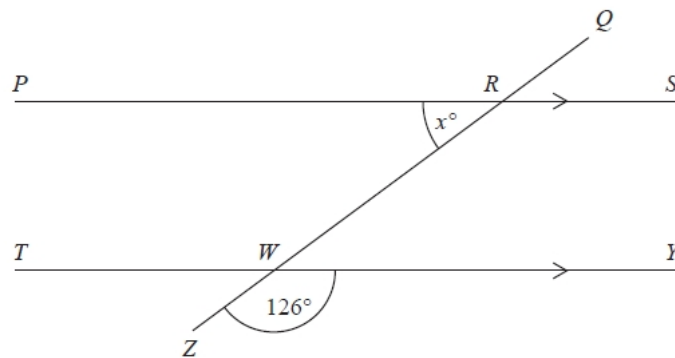**(1)**

(Total for question = 2 marks)

Q2.

*

Diagram **NOT** accurately drawn

PRS and *TWY* are parallel straight lines.
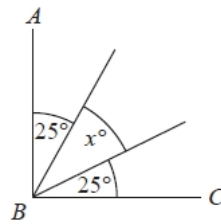*QRWZ* is a straight line.

Work out the value of *x*.
Give reasons for your answer.

(Total for Question is 3 marks)
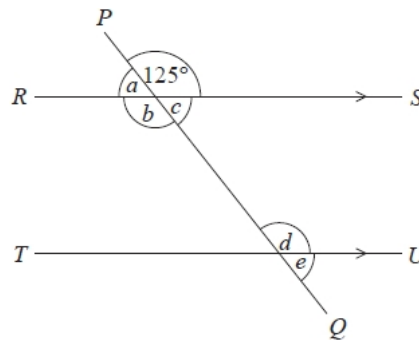
Q3.

AB and *BC* are perpendicular lines.

(a) Find the value of *x*.

$x =$ ....

(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.

....

....

(2)

(ii) Explain why $a + b + c = 235°$

....

....

....
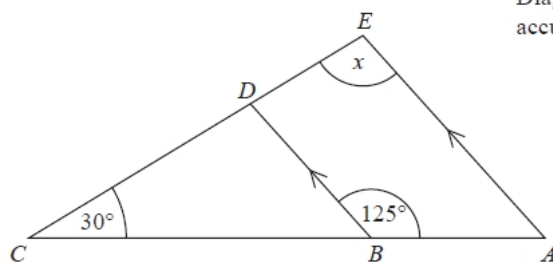
(1)

(Total for question = 5 marks)

Q4.

*

Diagram **NOT** accurately drawn

ABC and *EDC* are straight lines.
AE and *BD* are parallel.
Angle *ABD* = 125°
Angle *BCD* = 30°

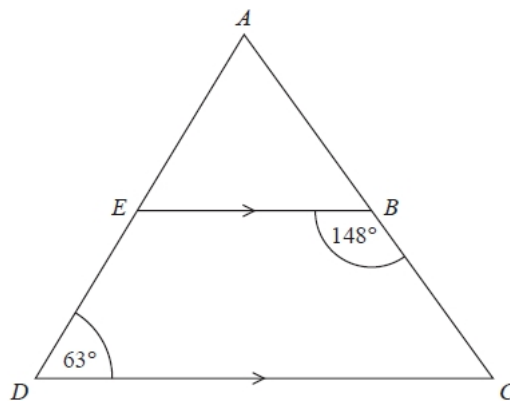Work out the size of the angle marked *x*.
Give reasons for your answer.

(Total for question = 4 marks)

Q5.

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.
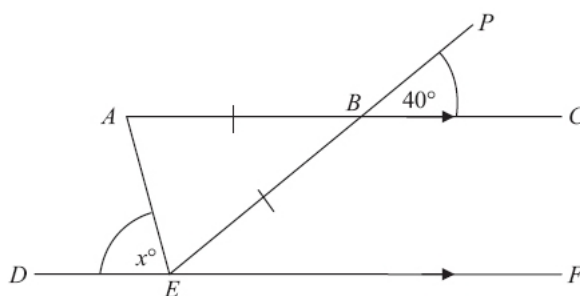
(Total for question = 5 marks)

Q6.

*

Diagram **NOT** accurately drawn

ABC is parallel to *DEF*.
EBP is a straight line.
AB = EB.
Angle *PBC* = 40°.
Angle *AED* = *x*°.

Work out the value of *x*.
Give a reason for each stage of your working.
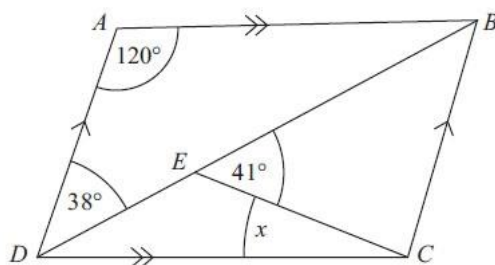
(Total for Question is 5 marks)

Q7.

*

Diagram **NOT** accurately drawn

ABCD is a parallelogram.

Angle *ADB* = 38°.
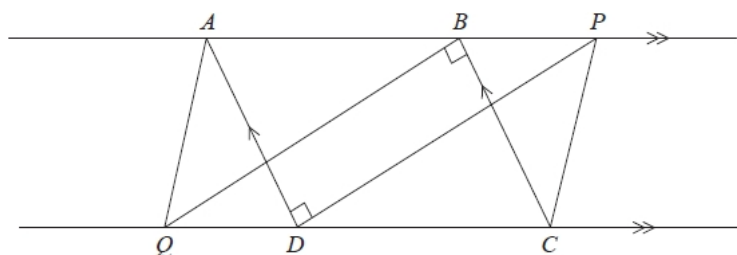Angle *BEC* = 41°.
Angle *DAB* = 120°.

Calculate the size of angle *x*.
You must give reasons for your answer.

(Total for Question is 4 marks)

Q8.

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*.
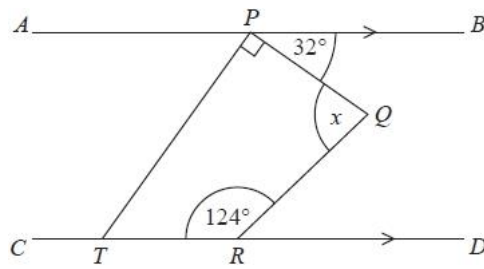
(2)

(Total for question = 5 marks)

Q9.

APB is parallel to *CTRD*.
PQRT is a quadrilateral.

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

.... °
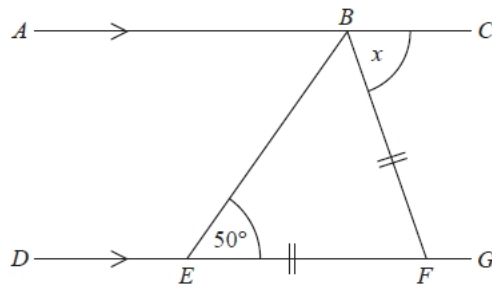
(Total for question = 4 marks)

Q10.

*

Diagram **NOT** accurately drawn

ABC is a straight line.
DEFG is a straight line.
AC is parallel to *DG*.
EF = BF.
Angle *BEF* = 50°.

Work out the size of the angle marked *x*.
Give reasons for your answer.

....°

(Total for Question is 4 marks)

Q11.
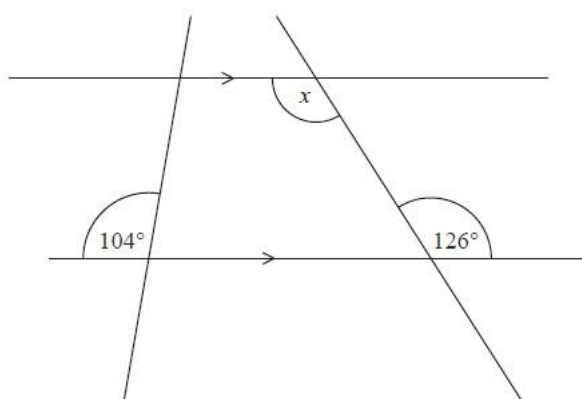
Diagram **NOT**
accurately drawn

(i) Find the size of the angle marked *x*.

.... °

(ii) Give a reason for your answer.

....

(Total for Question is 2 marks)