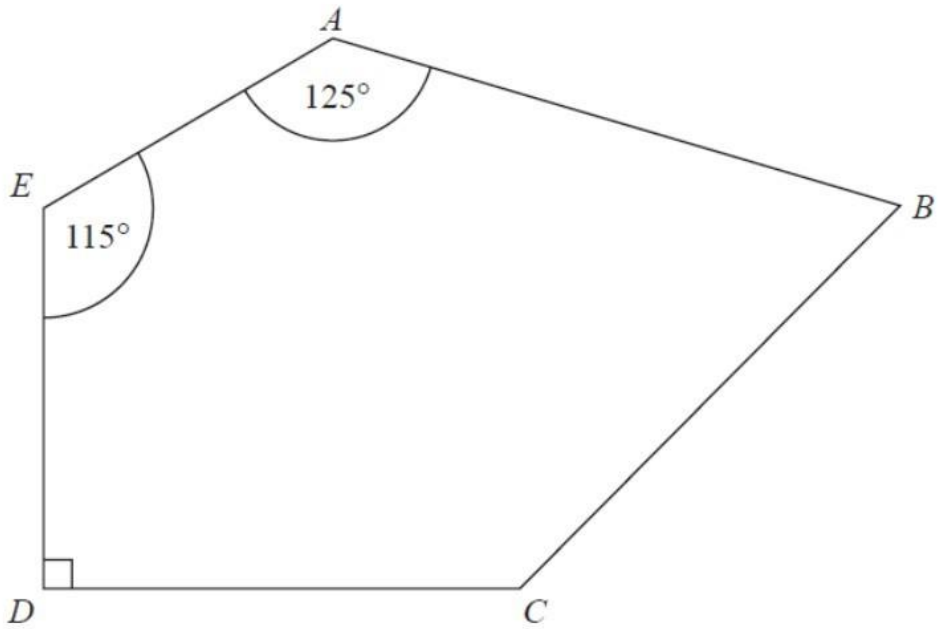
G8...Angles - Irregular Polygons

OCR

Edexcel

26 *ABCDE* is a pentagon.

G8
A16



Angle $BCD = 2 \times$ angle ABC

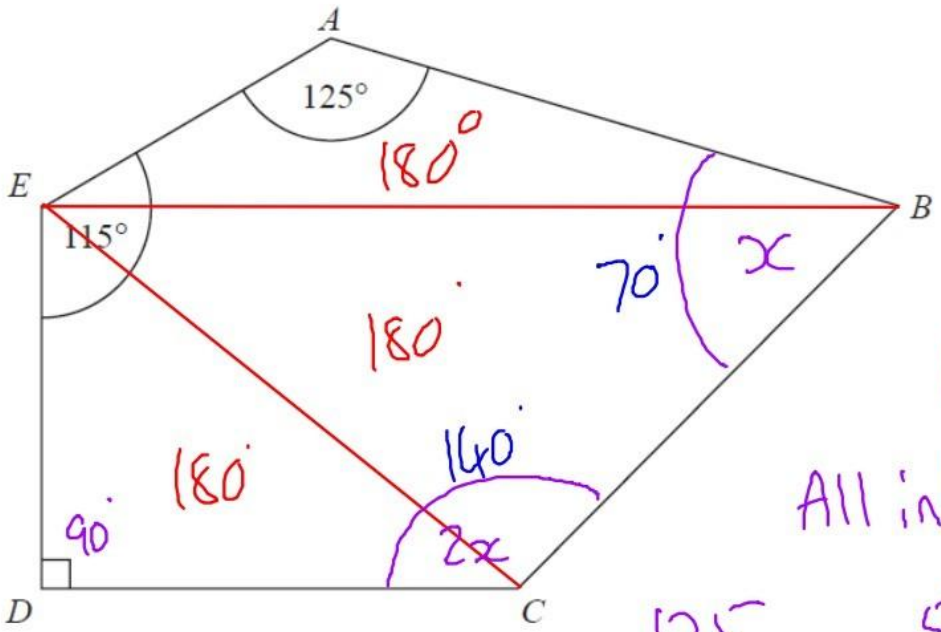
Work out the size of angle BCD.
You must show all your working.

.....°

(Total for Question 26 is 5 marks)

26 *ABCDE* is a pentagon.

G8
A16



Angle *BCD* = 2 × angle *ABC*

Work out the size of angle *BCD*.
You must show all your working.

5 sides

3 triangles

180 x 3 = 540°

All interior angles = 540°

125 + 115 + 90 + 330

540 − 330 = 210

3x = 210

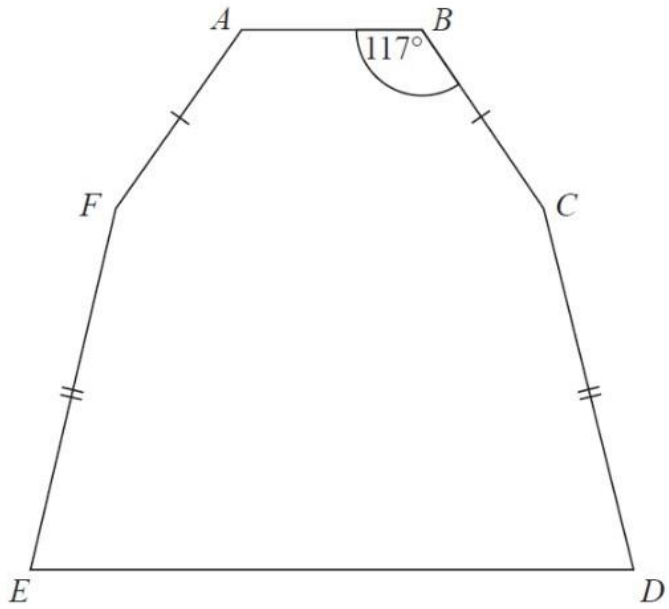
x = 70°

140°

(Total for Question is 5 marks)

28 The diagram shows a hexagon.
The hexagon has one line of symmetry.

G8



$FA = BC$
$EF = CD$
Angle $ABC = 117°$

Angle $BCD = 2 \times$ angle CDE

Work out the size of angle AFE.
You must show all your working.

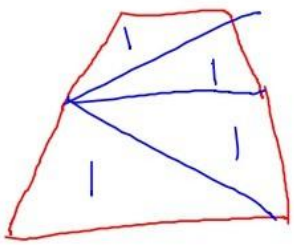
.....°

(Total for Question 28 is 4 marks)

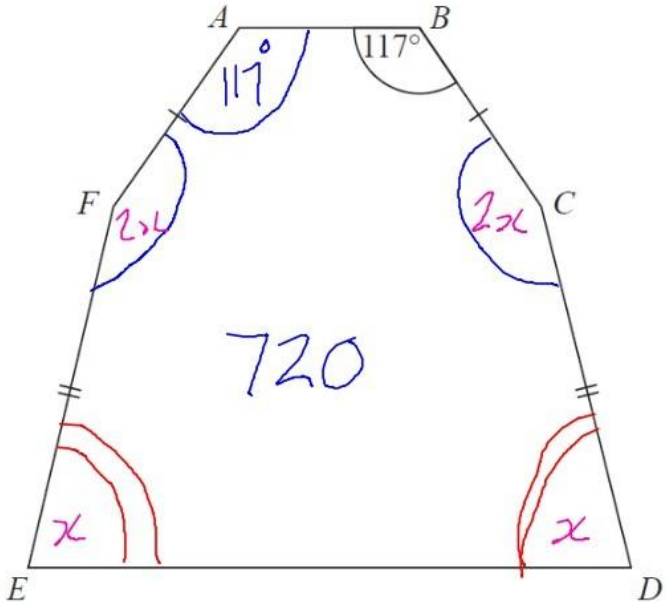
28 The diagram shows a hexagon.
The hexagon has one line of symmetry.

G8

Hexagon → 6 sides



4 triangles
$= 4 \times 180^\circ$
$= 720^\circ$



720
−117
−117
486

$FA = BC$
$EF = CD$
Angle $ABC = 117°$

Angle $BCD = 2 \times$ angle CDE

Work out the size of angle AFE.
You must show all your working.

$6x = 486^\circ$
$x = 81^\circ$

AFE = 2x
2 × 81

162 °

(Total for Question 28 is 4 marks)

AQA

28 The sum of the angles in any quadrilateral is 360°

For example, in a rectangle $4 \times 90° = 360°$

G8

Zak writes,

$5 \times 90° = 450°$ so the sum of the angles in any pentagon must be 450°

Is he correct?

Tick a box.

☐ Yes ☐ No

Show working to support your answer.

[2 marks]

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G8

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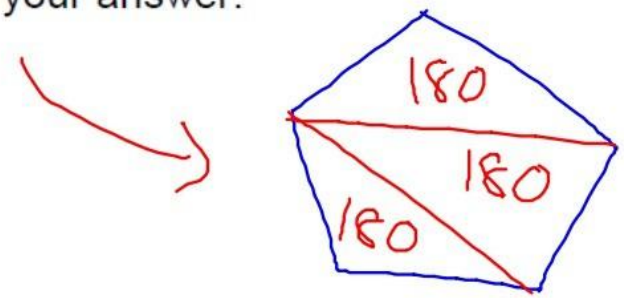


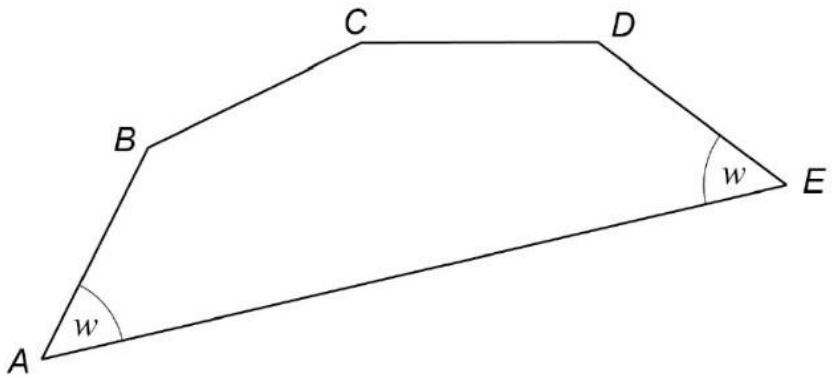
180° x 3

540° ✓

[2 marks]

20 *AB*, *BC*, *CD* and *DE* are four of the sides of a regular decagon.

G8
G9



Not drawn accurately

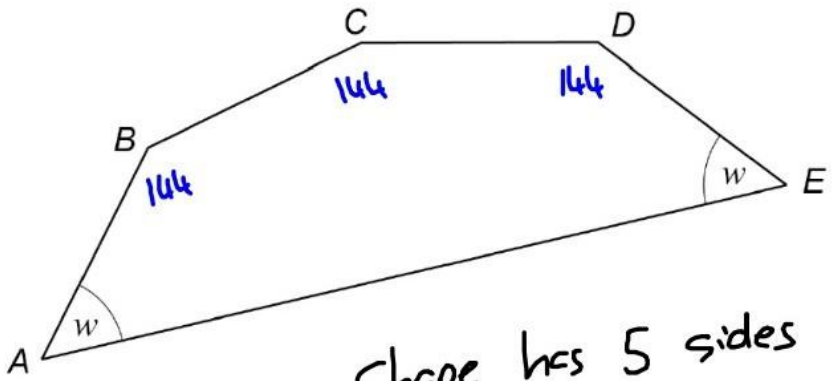
Work out the size of angle w.

[3 marks]

Answer _____ degrees

20 *AB*, *BC*, *CD* and *DE* are four of the sides of a regular decagon.

G8
G9



Not drawn accurately

360° ÷ sides = ext

360 ÷ 10 = 36°

ext = 36°

int = 144

Shape has 5 sides

3 x 180° = 540°

Work out the size of angle w.

$w + w + 144 + 144 + 144 = 540°$ **[3 marks]**

$2w + 432 = 540°$

$2w = 108$

$w = 54°$

Answer 54 degrees