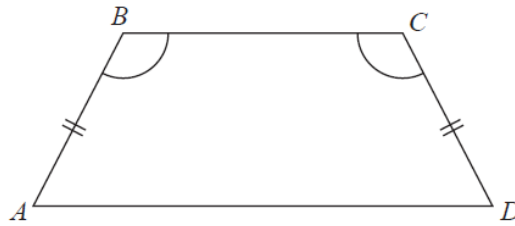


- 1  $ABCD$  is a quadrilateral.



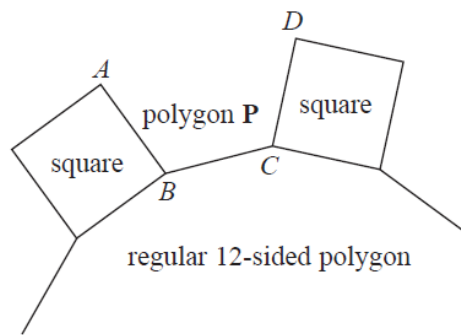
$$AB = CD.$$

$$\text{Angle } ABC = \text{angle } BCD.$$

Prove that  $AC = BD$ .

(Total for Question is 4 marks)

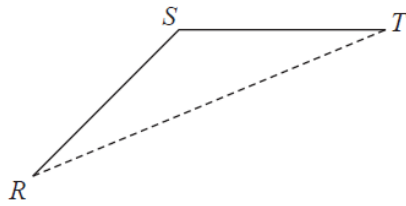
- 2 In the diagram,  $AB$ ,  $BC$  and  $CD$  are three sides of a regular polygon  $P$ .



Show that polygon  $P$  is a hexagon.  
You must show your working.

(Total for Question is 4 marks)

3

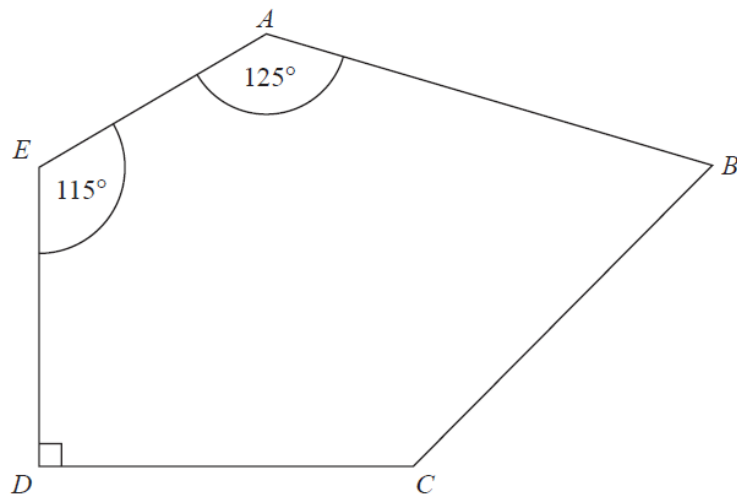


$RS$  and  $ST$  are 2 sides of a regular 12-sided polygon.  
 $RT$  is a diagonal of the polygon.

Work out the size of angle  $STR$ .  
You must show your working.

.....  
(Total for Question is 3 marks)

- 4  $ABCDE$  is a pentagon.

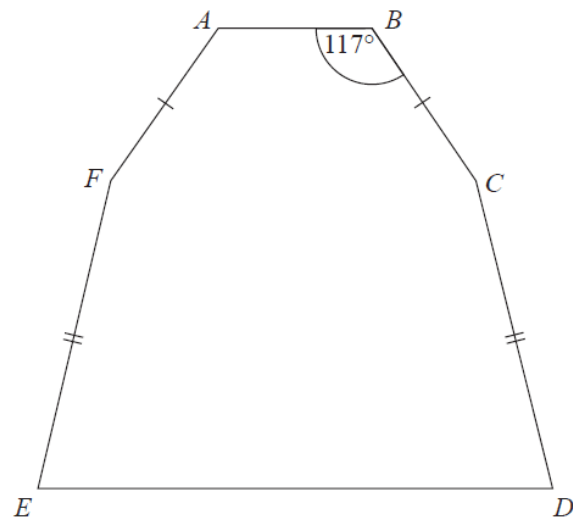


Angle  $BCD = 2 \times$  angle  $ABC$

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

.....  
(Total for Question is 5 marks)

- 5 The diagram shows a hexagon.  
The hexagon has one line of symmetry.



$$FA = BC$$

$$EF = CD$$

$$\text{Angle } ABC = 117^\circ$$

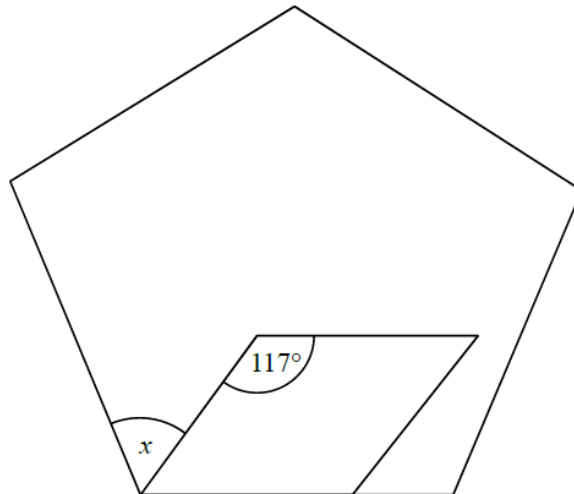
$$\text{Angle } BCD = 2 \times \text{angle } CDE$$

Work out the size of angle  $AFE$ .

You must show all your working.

.....  
(Total for Question is 4 marks)

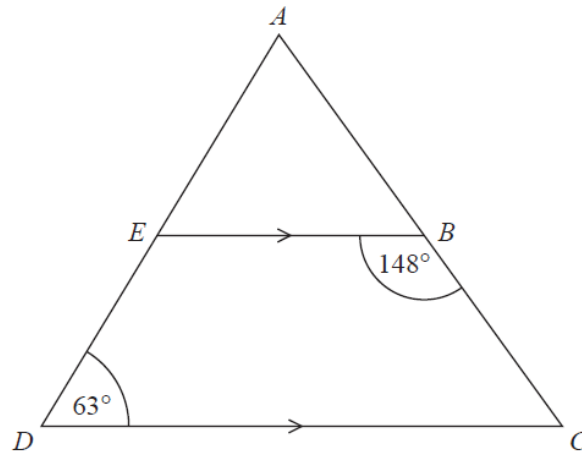
- 6 The diagram shows a regular pentagon and a parallelogram.



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

.....  
**(Total for Question is 4 marks)**

7  $ADC$  is a triangle.



$AED$  and  $ABC$  are straight lines.

$EB$  is parallel to  $DC$ .

Angle  $EBC = 148^\circ$

Angle  $ADC = 63^\circ$

Work out the size of angle  $EAB$ .

You must give a reason for each stage of your working.

(Total for Question is 5 marks)