Questions

Q1.

The interior angle of a regular polygon is 160°.

Diagram **NOT** accurately drawn

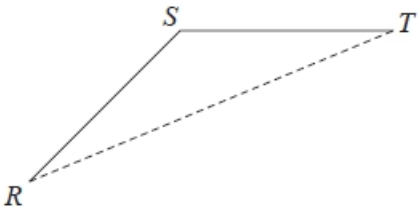
(i) Write down the size of an exterior angle of the polygon.

. . . . . °

(ii) Work out the number of sides of the polygon.

(Total for Question is 3 marks)

Q2.



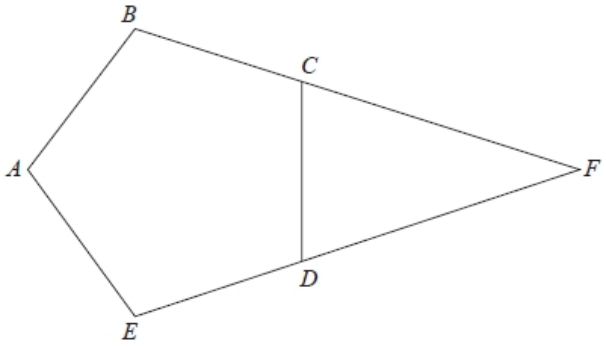
RS and *ST* are 2 sides of a regular 12-sided polygon.
RT is a diagonal of the polygon.

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

..... °

(Total for question = 3 marks)

Q3.



ABCDE is a regular pentagon. *BCF* and *EDF* are straight lines.

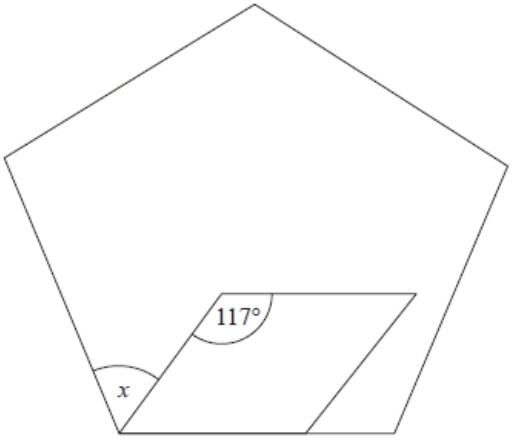
Work out the size of angle *CFD*. You must show how you get your answer.

..... °

(Total for question = 3 marks)

Q4.

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 = 4 marks)

Q5.

ABCDEFGHI is a regular 9-sided polygon.

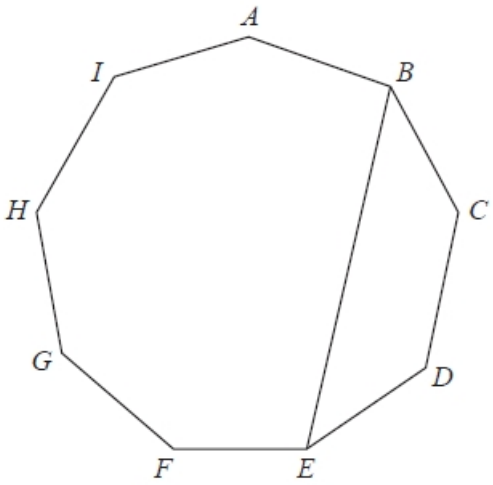


Diagram **NOT** accurately drawn

The vertices *B* and *E* are joined with a straight line.

Work out the size of angle *BEF*.
You must show how you get your answer.

..... °

(Total for question = 4 marks)

Q6.

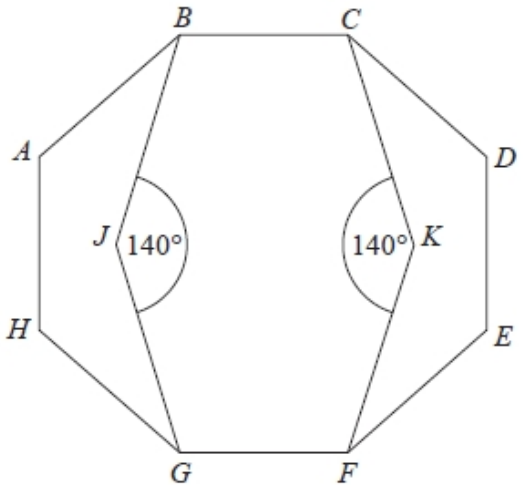


Diagram **NOT** accurately drawn

ABCDEFGH is a regular octagon.
BCKFGJ is a hexagon.

JK is a line of symmetry of the hexagon.
Angle *BJG* = angle *CKF* = 140°

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

..... °

(Total for Question is 4 marks)

Q7.

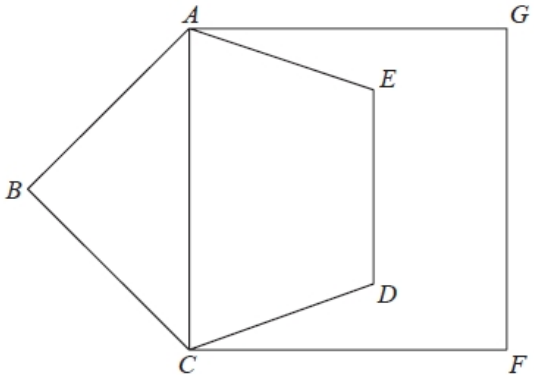


Diagram **NOT** accurately drawn

ABCDE is a regular pentagon. *ACFG* is a square.

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

.....°

(Total for question = 4 marks)

Q8.

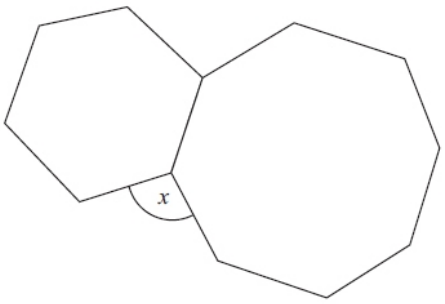


Diagram **NOT** accurately drawn

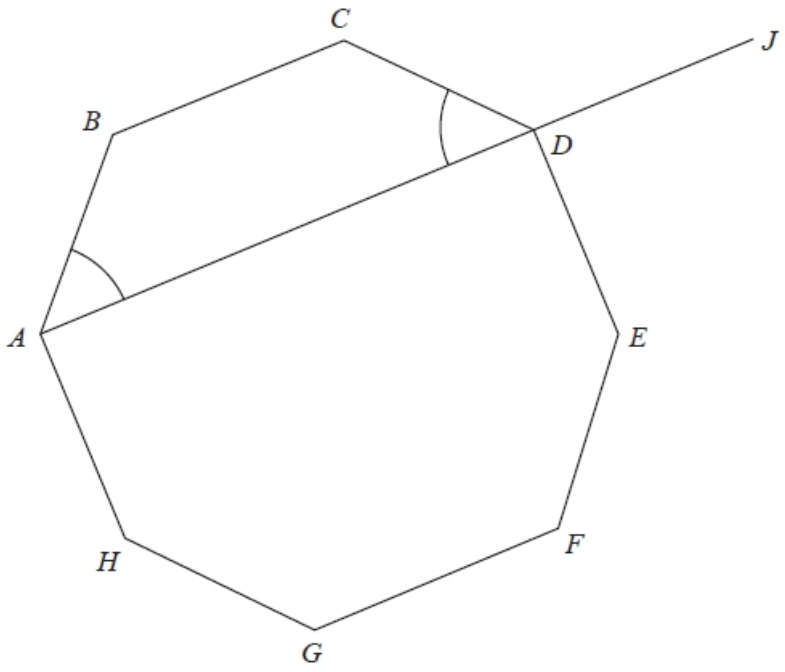
The diagram shows a regular hexagon and a regular octagon.

Calculate the size of the angle marked *x*. You must show all your working.

. . . . . .°

(Total for Question is 4 marks)

Q9.



ABCDEFGH is a regular octagon.
ADJ is a straight line.

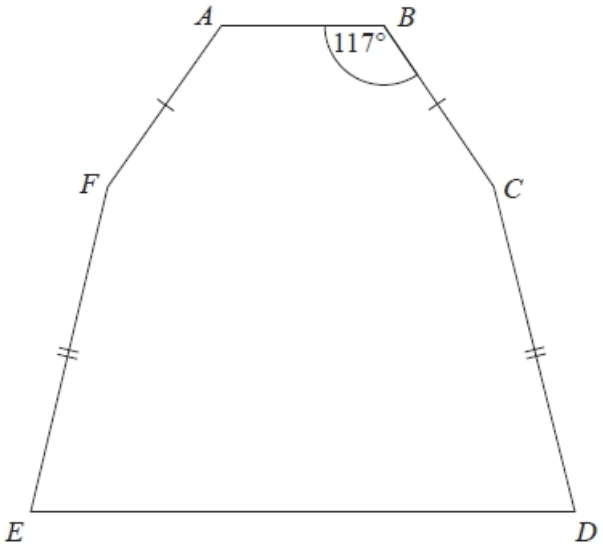
angle *BAD* = angle *CDA*

Show that angle *CDJ* = 135°

(Total for question = 4 marks)

Q10.

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



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

Angle *BCD* = 2 × angle *CDE*

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

..... °

(Total for question = 4 marks)

Q11.

The diagram shows part of a pattern made from tiles.

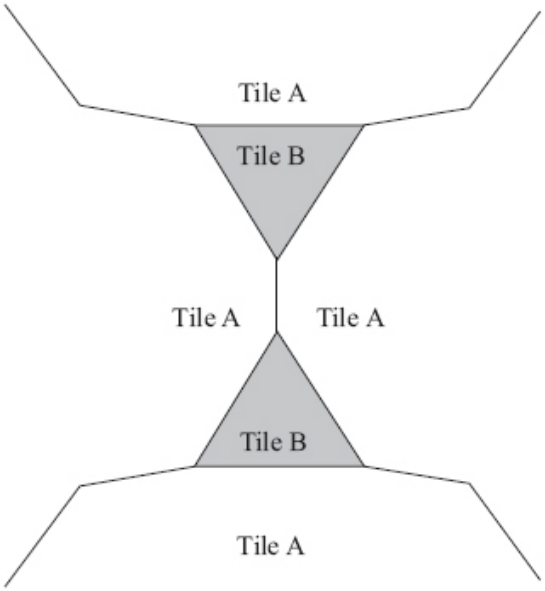


Diagram **NOT** accurately drawn

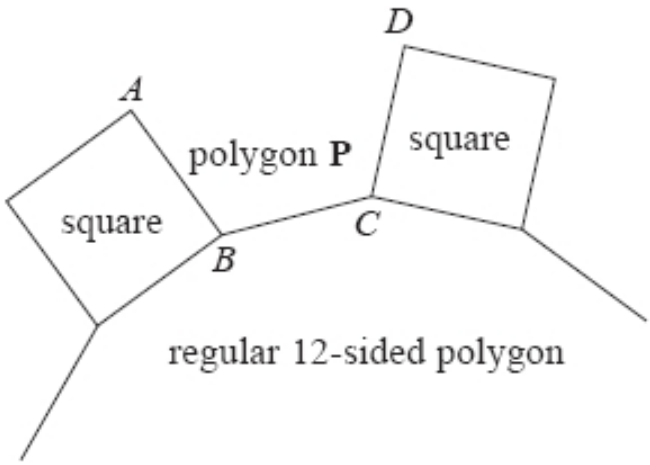
The pattern is made from two types of tiles, tile A and tile B.
Both tile A and tile B are regular polygons.
Work out the number of sides tile A has.

.....

(Total for Question is 4 marks)

Q12.

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 = 4 marks)

Q13.

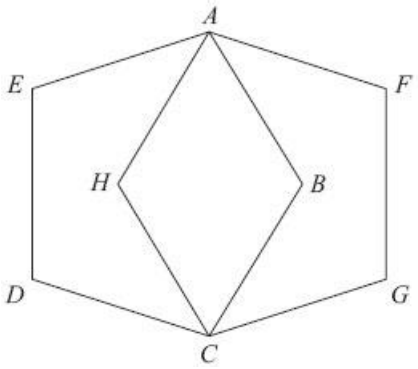


Diagram **NOT** accurately drawn

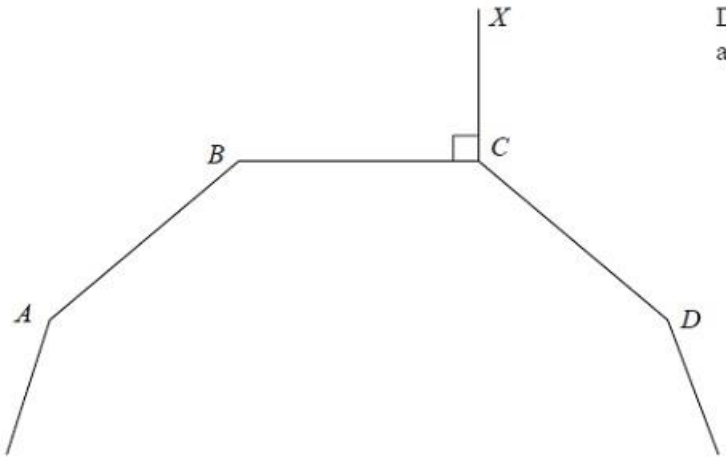
ABCDE and *AFGCH* are regular pentagons.
The two pentagons are the same size.

Work out the size of angle *EAH*.
You must show how you got your answer.

.....

(Total for Question is 4 marks)

Q14.



A, *B*, *C* and *D* are four vertices of a regular 10-sided polygon.
Angle *BCX* = 90°.

Work out the size of angle *DCX*.

..... °

(Total for Question is 3 marks)

Q15.

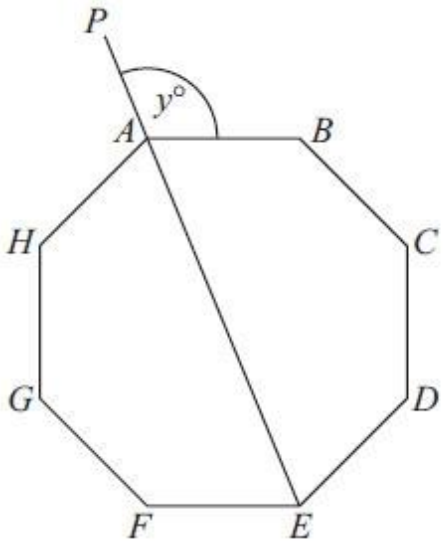


Diagram **NOT** accurately drawn

ABCDEFGH is a regular octagon.
PAE is a straight line.

Angle *PAB* = *y*°

Work out the value of *y*

y = ...

(Total for Question is 4 marks)

Q16.

ABCDE and *PQRST* are regular pentagons.

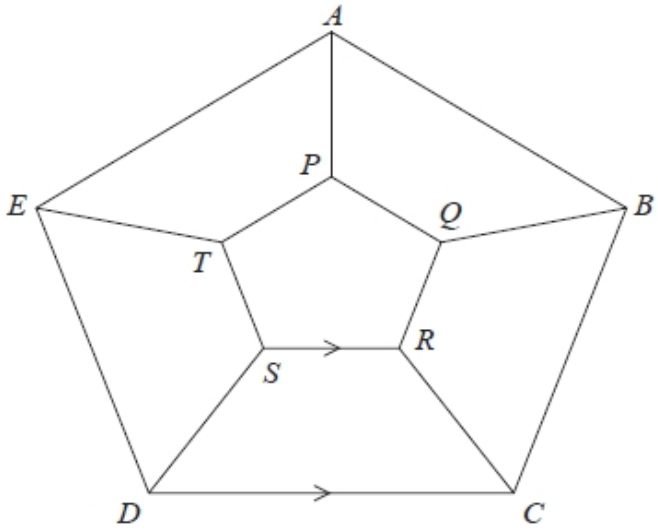


Diagram **NOT** accurately drawn

SR is parallel to *DC*
AP = *BQ* = *CR* = *DS* = *ET*

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

..... °

(Total for question = 3 marks)

Q17.

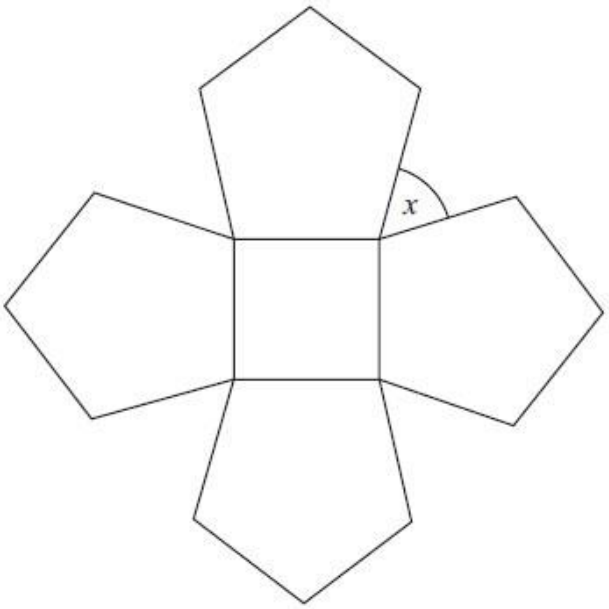


Diagram **NOT** accurately drawn

The diagram shows a square and 4 regular pentagons.

Work out the size of the angle marked x.

.....

(Total for Question is 3 marks)

Q18.

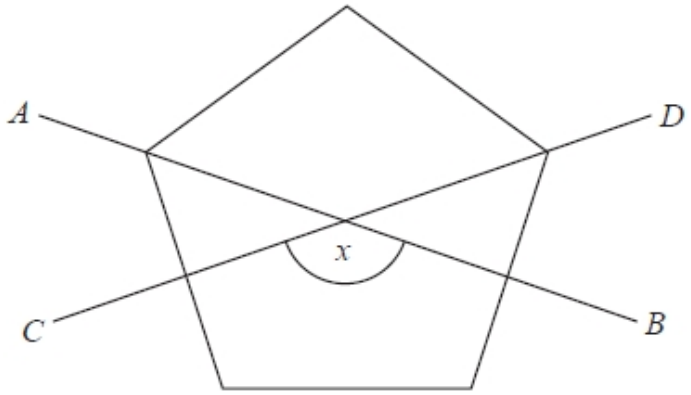


Diagram **NOT** accurately drawn

The diagram shows a regular pentagon.
AB and *CD* are two of the lines of symmetry of the pentagon.

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

..... °

(Total for question = 4 marks)