

Polygons

Question Paper 1

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Shape, Space and Measures
Sub Topic	Polygons
Booklet	Question Paper 1

Time Allowed: 59 minutes

Score: /49

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

1

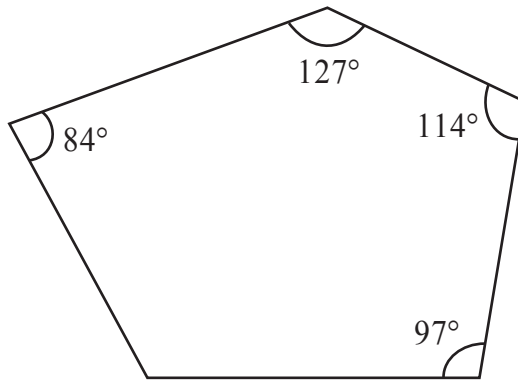


Diagram **NOT** accurately drawn

Four of the angles of a pentagon are 97° , 114° , 127° and 84° .

Work out the size of the fifth angle.

.....^o

(Total for Question 1 is 4 marks)

2

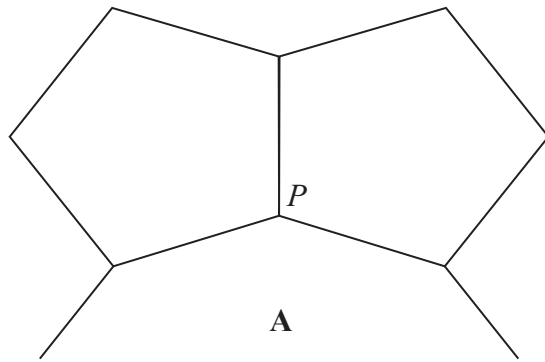


Diagram **NOT**
accurately drawn

The diagram shows two congruent regular pentagons and part of a regular n -sided polygon **A**.

Two sides of each of the regular pentagons and two sides of **A** meet at the point P .

Calculate the value of n .

Show your working clearly.

$n = \dots\dots\dots$

(Total for Question 2 is 5 marks)

3

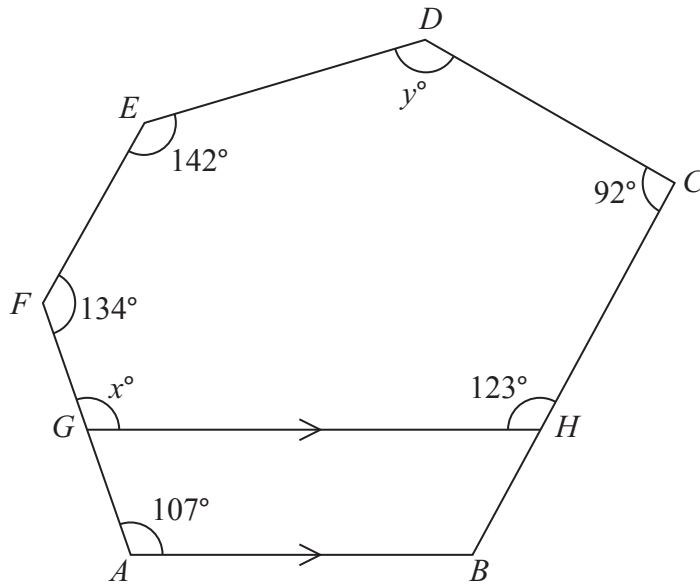


Diagram NOT accurately drawn

ABCDEF is a hexagon.
G is a point on *AF*.
H is a point on *BC*.
GH is parallel to *AB*.

(a) Give a reason why $x = 107$

(1)

(b) Work out the value of y .

$y = \dots\dots\dots$
 (4)

(Total for Question 3 is 5 marks)

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4 The diagram shows an incomplete regular polygon.

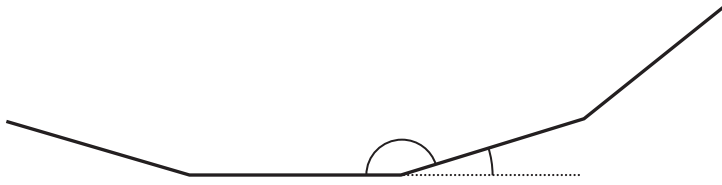


Diagram **NOT**
accurately drawn

The size of each interior angle is 140 degrees greater than the size of each exterior angle.

Work out the number of sides the regular polygon has.

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

5

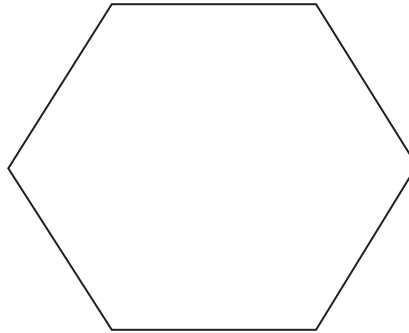


Diagram **NOT**
accurately drawn

The diagram shows a regular hexagon.
The perimeter of the hexagon is 42 cm.

Calculate the area of the hexagon.
Give your answer correct to 3 significant figures.

..... cm²

(Total for Question 5 is 5 marks)

6

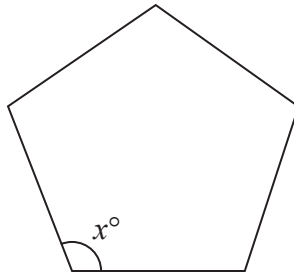


Diagram **NOT** accurately drawn

The diagram shows a regular 5-sided polygon.

(a) Work out the value of x .

$$x = \dots\dots\dots$$

(2)

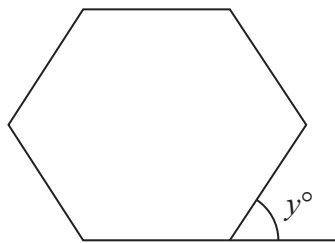


Diagram **NOT** accurately drawn

The diagram shows a regular 6-sided polygon.

(b) Work out the value of y .

$$y = \dots\dots\dots$$

(2)

(Total for Question 6 is 4 marks)

7



Diagram **NOT** accurately drawn

The diagram shows part of a regular polygon.
The interior angle and the exterior angle at a vertex are marked.
The size of the interior angle is 7 times the size of the exterior angle.

Work out the number of sides of the polygon.

.....
(Total for Question 7 is 3 marks)

8 Work out the size of each exterior angle of a regular polygon with 15 sides.

.....
(Total for Question 8 is 2 marks)

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- 9 The diagram shows a parallelogram $ABCD$.
In the diagram, all the angles are in degrees.

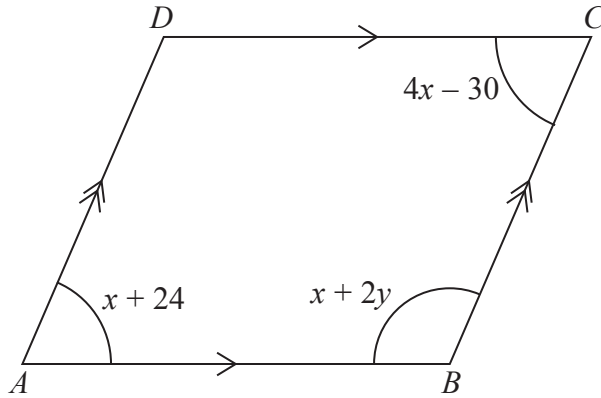


Diagram **NOT** accurately drawn

Work out the value of x and the value of y .

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 9 is 4 marks)

10 (a) Find the sum of the interior angles of a polygon with 7 sides.

.....
(2)

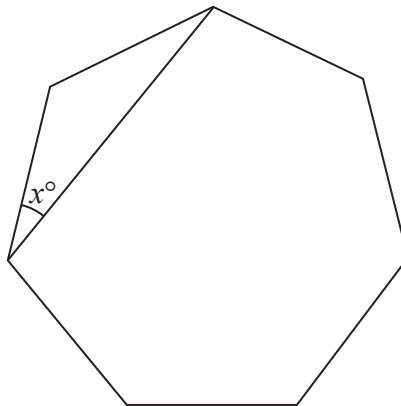


Diagram **NOT** accurately drawn

The diagram shows a regular polygon with 7 sides.

(b) Work out the value of x .
Give your answer correct to 1 decimal place.

.....
(2)

(Total for Question 10 is 4 marks)

11 The size of each interior angle of a regular polygon with n sides is 140°

Work out the size of each interior angle of a regular polygon with $2n$ sides.

.....
○

(Total for Question 11 is 5 marks)

12

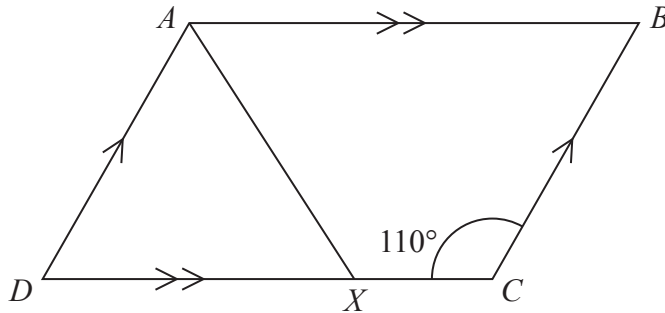


Diagram **NOT** accurately drawn

ABCD is a parallelogram.

Angle *DCB* = 110°

X is the point on *DC* such that *AX* bisects the angle *DAB*.

Calculate the size of angle *AXC*.

.....
(Total for Question 12 is 4 marks)