

# Polygons

## Question Paper 2

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Shape, Space and Measures
Sub Topic	Polygons
Booklet	Question Paper 2

**Time Allowed:** 42 minutes

**Score:** /35

**Percentage:** /100

**Grade Boundaries:**

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

1 Here is a trapezium  $ABCD$ .

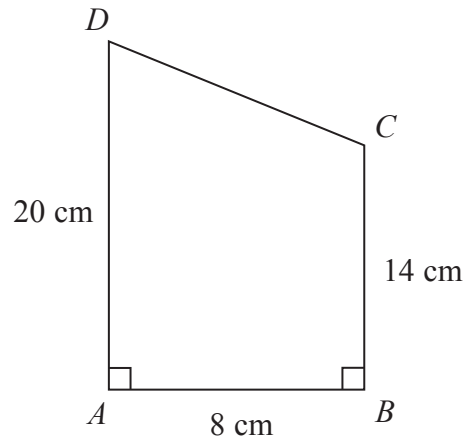


Diagram **NOT** accurately drawn

Angle  $DAB = \text{angle } ABC = 90^\circ$

$AD = 20 \text{ cm}$

$AB = 8 \text{ cm}$

$BC = 14 \text{ cm}$

(a) Calculate the area of the trapezium  $ABCD$ .

.....  $\text{cm}^2$   
(2)

(b) Calculate the length of  $CD$ .

.....  $\text{cm}$   
(4)

**(Total for Question 1 is 6 marks)**

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2 Each exterior angle of a regular polygon is  $15^\circ$

(a) How many sides has the regular polygon?

.....  
(2)

The diagram shows 3 identical regular pentagons.

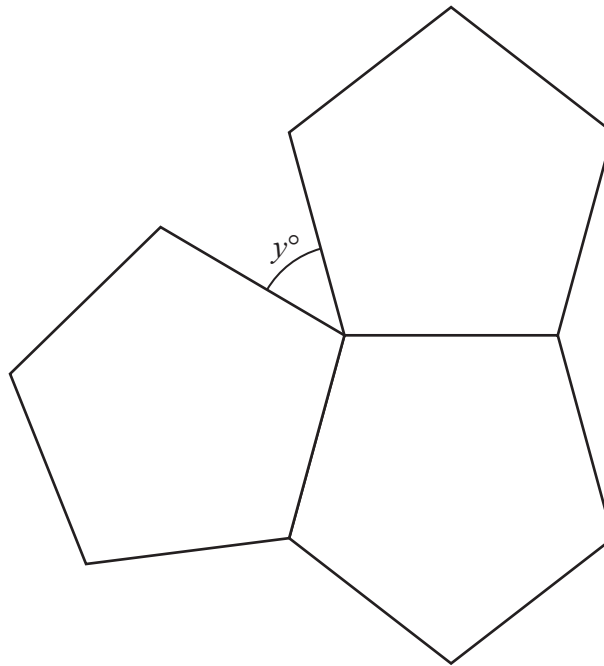


Diagram **NOT** accurately drawn

(b) Work out the value of  $y$ .

$y =$ .....  
(3)

**(Total for Question 2 is 5 marks)**

3

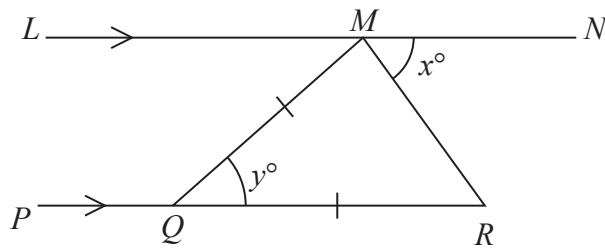


Diagram **NOT** accurately drawn

$LMN$  is parallel to  $PQR$ .

$QM = QR$ .

Angle  $RMN = x^\circ$

Angle  $MQR = y^\circ$

(a) Write down an expression for  $y$  in terms of  $x$ .

$y = \dots\dots\dots$   
(2)

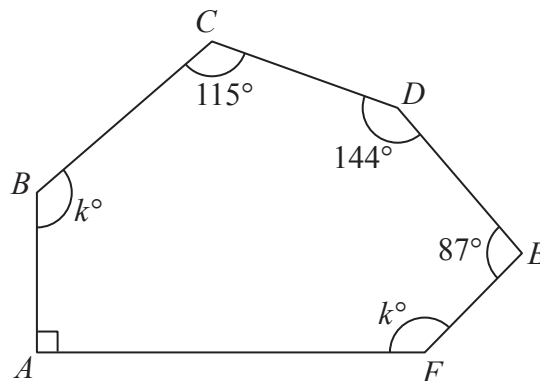


Diagram **NOT** accurately drawn

$ABCDEF$  is a hexagon.

(b) Work out the value of  $k$ .

$k = \dots\dots\dots$   
(4)

4 Here is a regular 10-sided polygon.

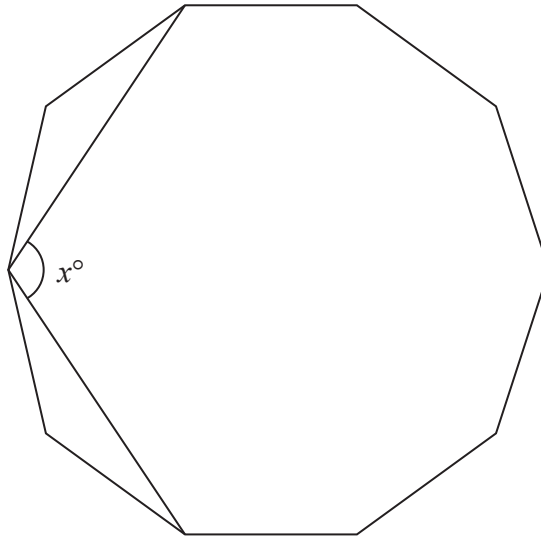


Diagram **NOT** accurately drawn

Work out the value of  $x$ .  
Show your working clearly.

$x = \dots\dots\dots$

(Total for Question 4 is 4 marks)

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- 5 Work out the size of an exterior angle of a regular polygon with 8 sides.

o

.....  
**(Total for Question 5 is 2 marks)**

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6

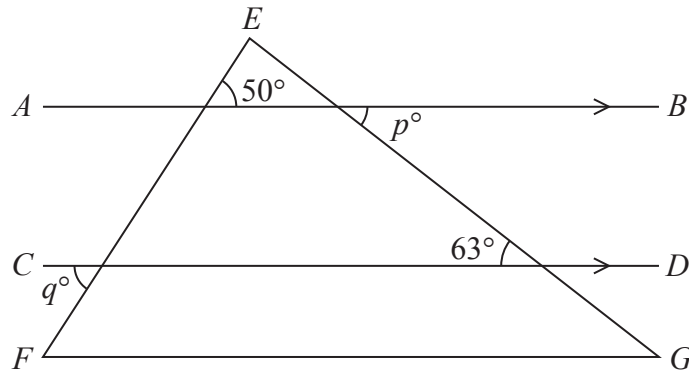


Diagram **NOT** accurately drawn

$EFG$  is a triangle.  
 $AB$  is parallel to  $CD$ .

(a) Write down the value of  $p$

$p = \dots\dots\dots$   
 (1)

(b) Write down the value of  $q$

$q = \dots\dots\dots$   
 (1)

Here is a hexagon.

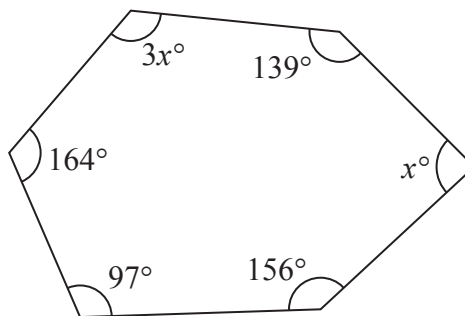


Diagram **NOT** accurately drawn

(c) Work out the value of  $x$

$x = \dots\dots\dots$   
 (3)

(Total for Question 6 is 5 marks)

7 Here is a kite  $ABCD$ .

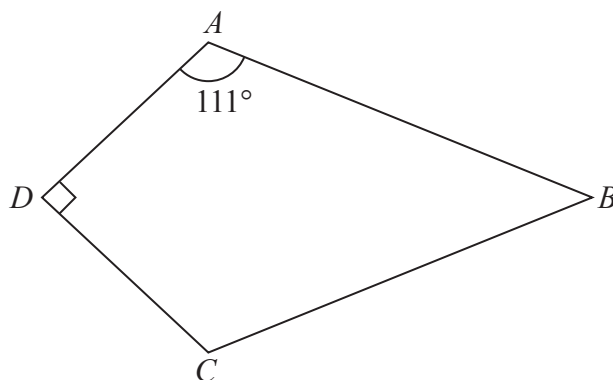


Diagram **NOT** accurately drawn

Angle  $DAB = 111^\circ$

Angle  $ADC = 90^\circ$

(a) Work out the size of angle  $ABC$ .

.....  
(2)



Two of these kites are arranged so that a shorter side of one of the kites is placed on top of a shorter side of the other kite, as shown in the diagram below.

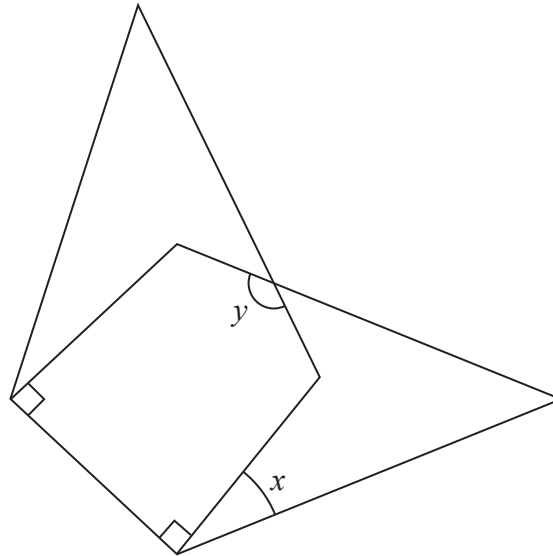


Diagram **NOT** accurately drawn

(b) Work out the size of angle  $x$ .

.....  
(2)

(c) Work out the size of angle  $y$ .

.....  
(3)

**(Total for Question 7 is 7 marks)**