

2 Each interior angle of a regular polygon is 162°

Work out the number of sides the polygon has.

(Total for Question 2 is 3 marks)



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3

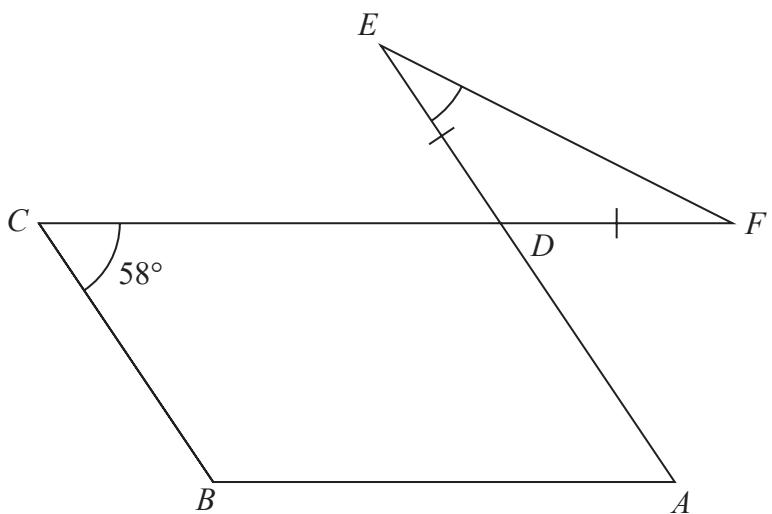


Diagram NOT
accurately drawn

The diagram shows a parallelogram $ABCD$ and an isosceles triangle DEF in which $DE = DF$

CDF and ADE are straight lines.

Angle $BCD = 58^\circ$

Work out the size of angle DEF .

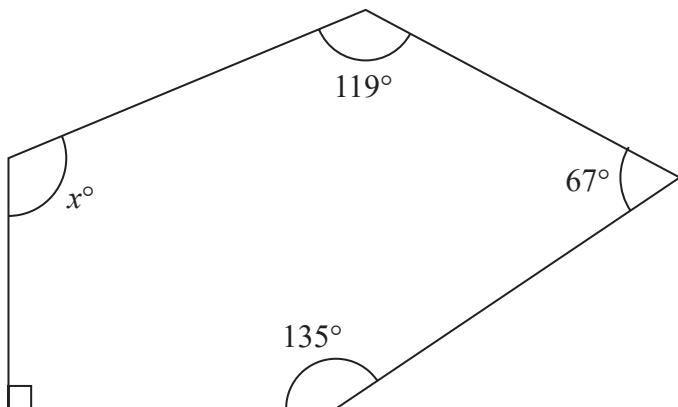
Give a reason for each stage of your working.

(Total for Question 3 is 5 marks)



P 6 2 6 5 7 A 0 5 2 4

4 The diagram shows a pentagon.



Work out the value of x

$$x = \dots$$

(Total for Question 4 is 3 marks)

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4 The diagram shows a regular octagon $ABCDEFGH$ and a regular pentagon $ABIJK$

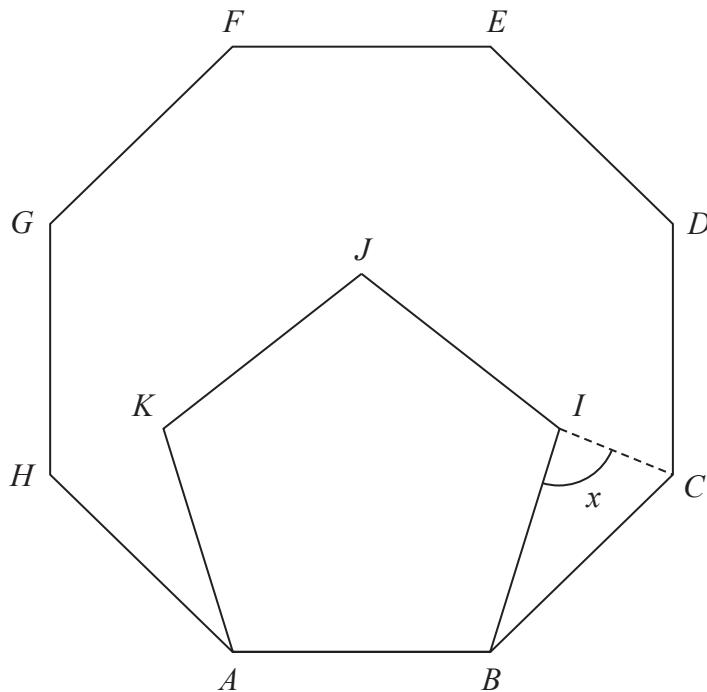


Diagram NOT
accurately drawn

Work out the size of the angle x

(Total for Question 4 is 4 marks)

4 The diagram shows parts of three regular polygons, **A**, **B** and **C**, meeting at a point.

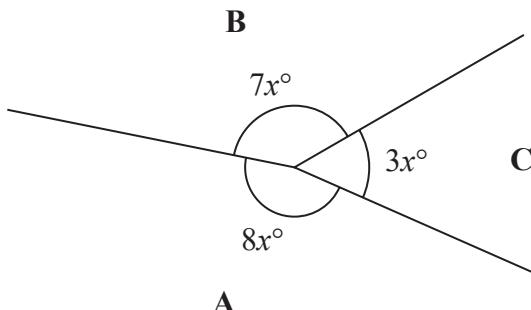


Diagram **NOT**
accurately drawn

Polygon **B** has n sides.

Work out the value of n .

$n = \dots$

(Total for Question 4 is 4 marks)



5

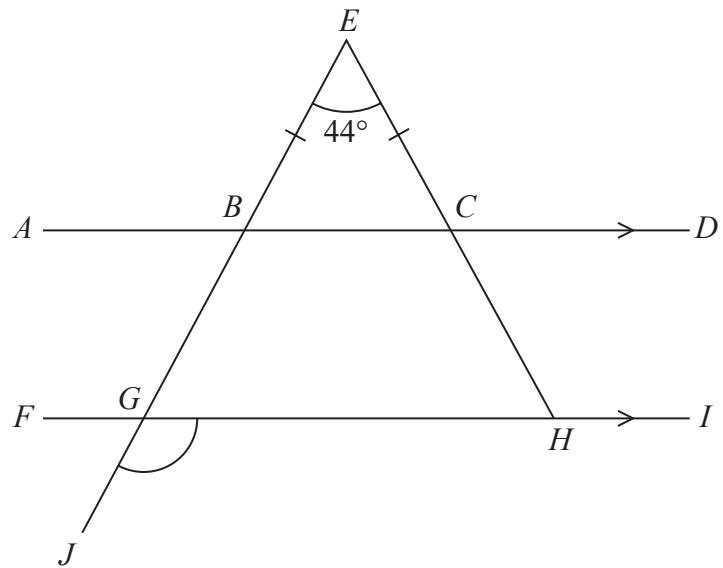


Diagram **NOT**
accurately drawn

$ABCD$ and $FGHI$ are parallel straight lines.

$EBGJ$ and ECH are straight lines.

$$BE = CE$$

$$\text{Angle } BEC = 44^\circ$$

Work out the size of angle JGH .

Give a reason for each stage of your working.

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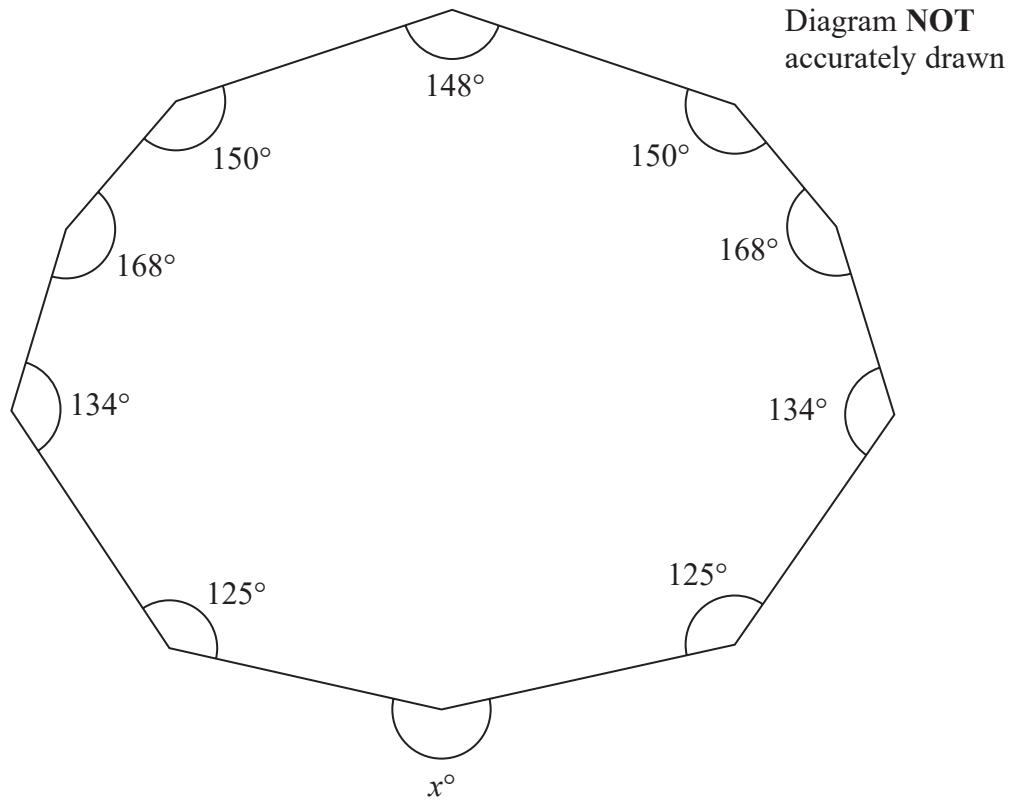
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(Total for Question 5 is 5 marks)



8 Here is a 10-sided polygon.



Work out the value of x .

$$x = \dots$$

(Total for Question 8 is 4 marks)



P 6 2 6 5 2 A 0 9 2 8

11 The diagram shows a regular 10-sided polygon, $ABCDEFGHIJ$

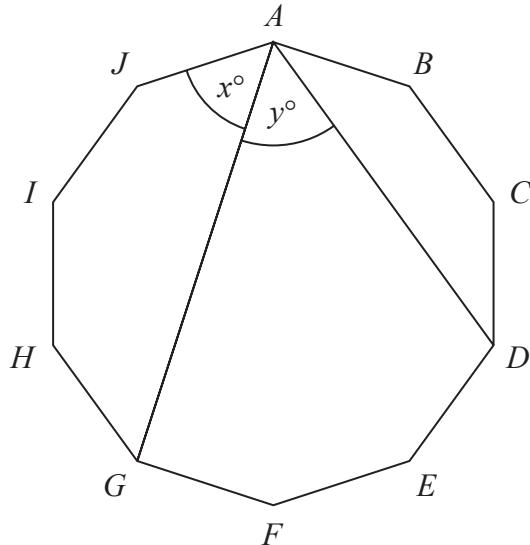


Diagram NOT
accurately drawn

Show that $x = y$

(Total for Question 11 is 4 marks)

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P 6 9 2 0 3 A 0 1 3 2 8

12

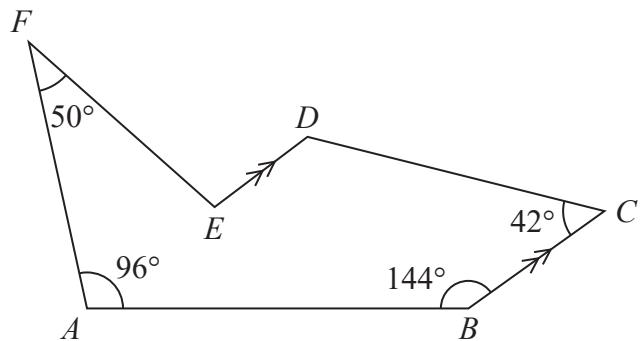


Diagram **NOT**
accurately drawn

The diagram shows a hexagon $ABCDEF$.
 BC is parallel to ED .

Work out the size of the obtuse angle DEF .

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(Total for Question 12 is 5 marks)



A trapezoid ABCD is shown. The top base AB is longer than the bottom base CD. The height of the trapezoid, represented by a vertical line segment from the top base to the bottom base, is labeled 6.5 cm. The distance between the bases, represented by a horizontal line segment connecting the midpoints of the bases, is labeled 3 cm.

Diagram **NOT**
accurately drawn

AB, BC and CD are three sides of a regular pentagon and CDE is a triangle. BCE is a straight line.

$$CD = 6.5 \text{ cm} \quad CE = 3 \text{ cm}$$

Work out the area of triangle CDE
Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 15 is 3 marks)



22 The diagram shows a regular octagon $ABCDEFGH$.

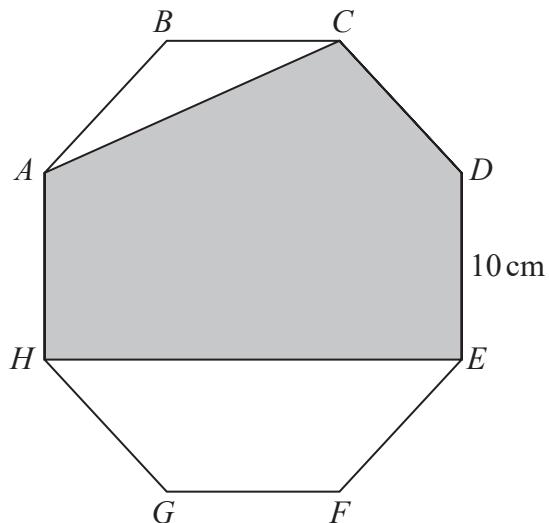


Diagram NOT
accurately drawn

Each side of the octagon has length 10 cm.

Find the area of the shaded region $ACDEH$.
Give your answer correct to the nearest cm^2

..... cm^2

(Total for Question 22 is 6 marks)

