

1MA1 Higher themed papers: Angles - Regular polygons

Write your name here	
Surname	Other names
Centre Number	Candidate Number
Pearson Edexcel Level 1/Level 2 GCSE (9–1)	
Mathematics Angles – Regular polygons	
	Paper Reference 1MA1
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

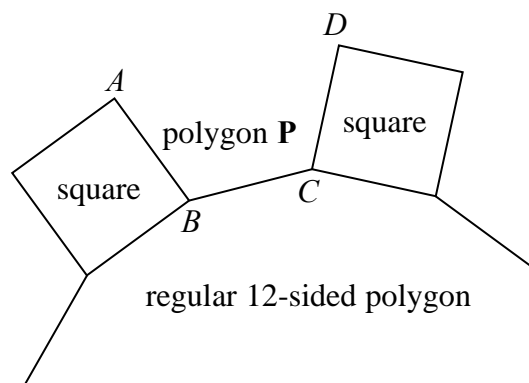
- The total mark for this paper is **18**. There are **5** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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

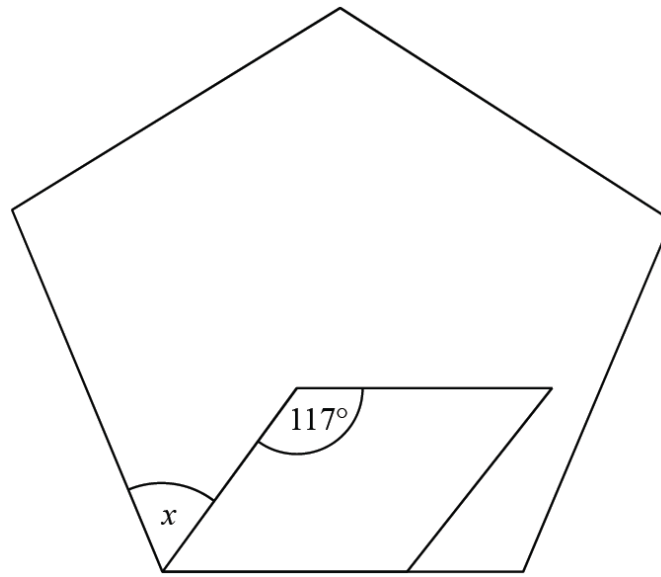


Show that polygon **P** is a hexagon.
You must show your working.

(Total for Question 1 is 4 marks)

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

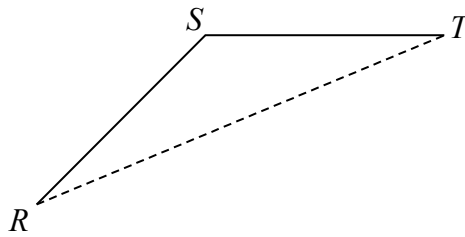


Work out the size of the angle marked x .
You must show all your working.

.....^o
(Total for Question 2 is 4 marks)

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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 .

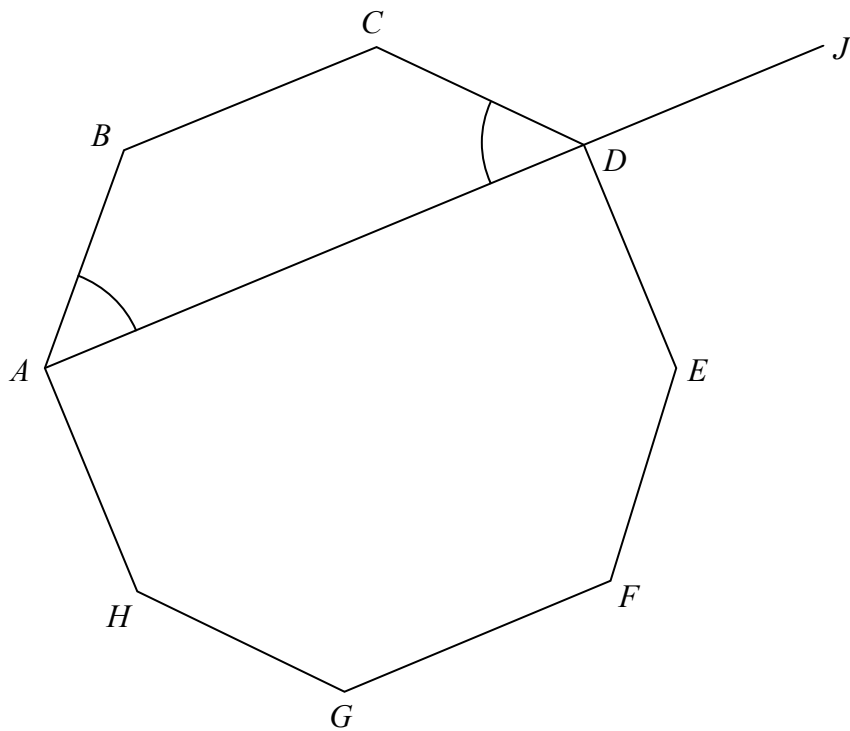
You must show your working.

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

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4



1H

$ABCDEFGH$ is a regular octagon.

ADJ is a straight line.

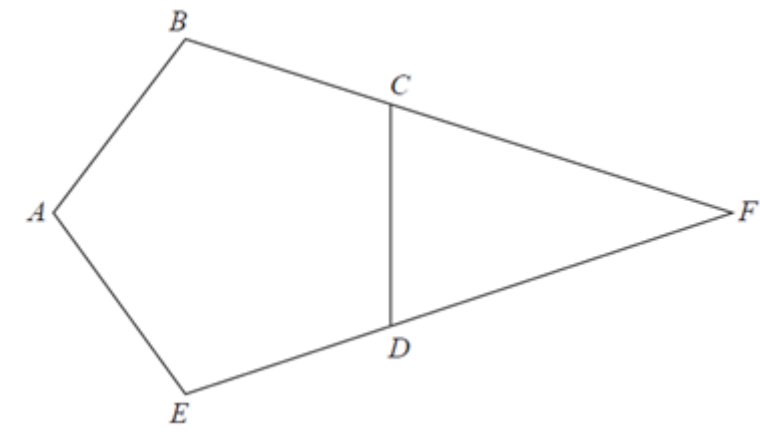
angle $BAD =$ angle CDA

Show that angle $CDJ = 135^\circ$

(Total for Question 4 is 4 marks)

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5



$ABCDE$ 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 5 is 3 marks)

TOTAL MARKS FOR PAPER: 18