

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL	



General Certificate of Education
Advanced Level Examination
June 2014

Mathematics

MFP2

Unit Further Pure 2

Wednesday 18 June 2014 1.30 pm to 3.00 pm

For this paper you must have:

- the blue AQA booklet of formulae and statistical tables.

You may use a graphics calculator.

Time allowed

- 1 hour 30 minutes

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Write the question part reference (eg (a), (b)(i) etc) in the left-hand margin.
- You must answer each question in the space provided for that question. If you require extra space, use an AQA supplementary answer book; do **not** use the space provided for a different question.
- Do not write outside the box around each page.
- Show all necessary working; otherwise marks for method may be lost.
- Do all rough work in this book. Cross through any work that you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 75.

Advice

- Unless stated otherwise, you may quote formulae, without proof, from the booklet.
- You do not necessarily need to use all the space provided.



J U N 1 4 M F P 2 0 1

2 (a) Sketch, on the Argand diagram below, the locus L of points satisfying

$$\arg(z - 2i) = \frac{2\pi}{3}$$

[3 marks]

(b) (i) A circle C , of radius 3, has its centre lying on L and touches the line $\text{Im}(z) = 2$. Sketch C on the Argand diagram used in part **(a)**.

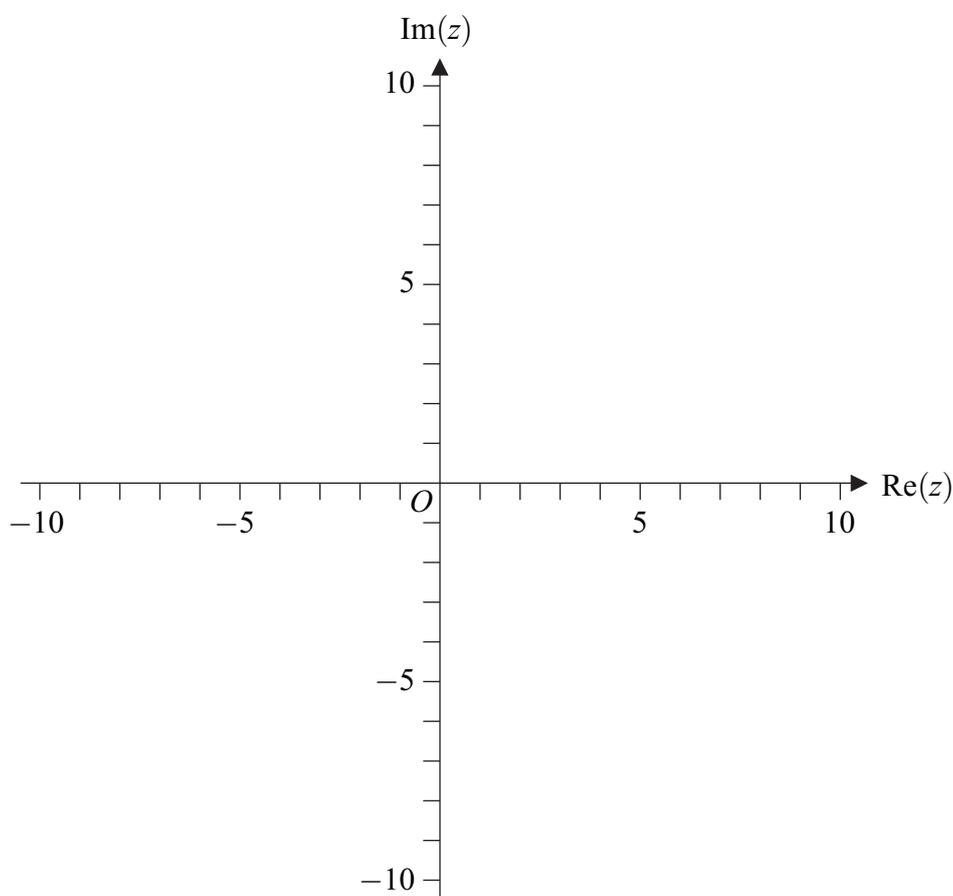
[2 marks]

(ii) Find the centre of C , giving your answer in the form $a + bi$.

[3 marks]

QUESTION
PART
REFERENCE

Answer space for question 2



QUESTION
PART
REFERENCE

Answer space for question 3

Area with horizontal dotted lines for writing the answer to question 3.

Turn over ►



QUESTION
PART
REFERENCE

Answer space for question 7

A large rectangular area with horizontal dotted lines for writing the answer to question 7.

Turn over ►



QUESTION
PART
REFERENCE

Answer space for question 8

Area with horizontal dotted lines for writing the answer to question 8.

Turn over ►



QUESTION
PART
REFERENCE

Answer space for question 8

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END OF QUESTIONS



There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

