

Write your name here

Surname

Other names

Edexcel
International GCSE

Centre Number

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Candidate Number

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Further Pure Mathematics

Paper 2

Tuesday 20 June 2017 – Afternoon
Time: 2 hours

Paper Reference

4PM0/02

Calculators 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.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 100.
- 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.
- Check your answers if you have time at the end.

Turn over ►

P47877A

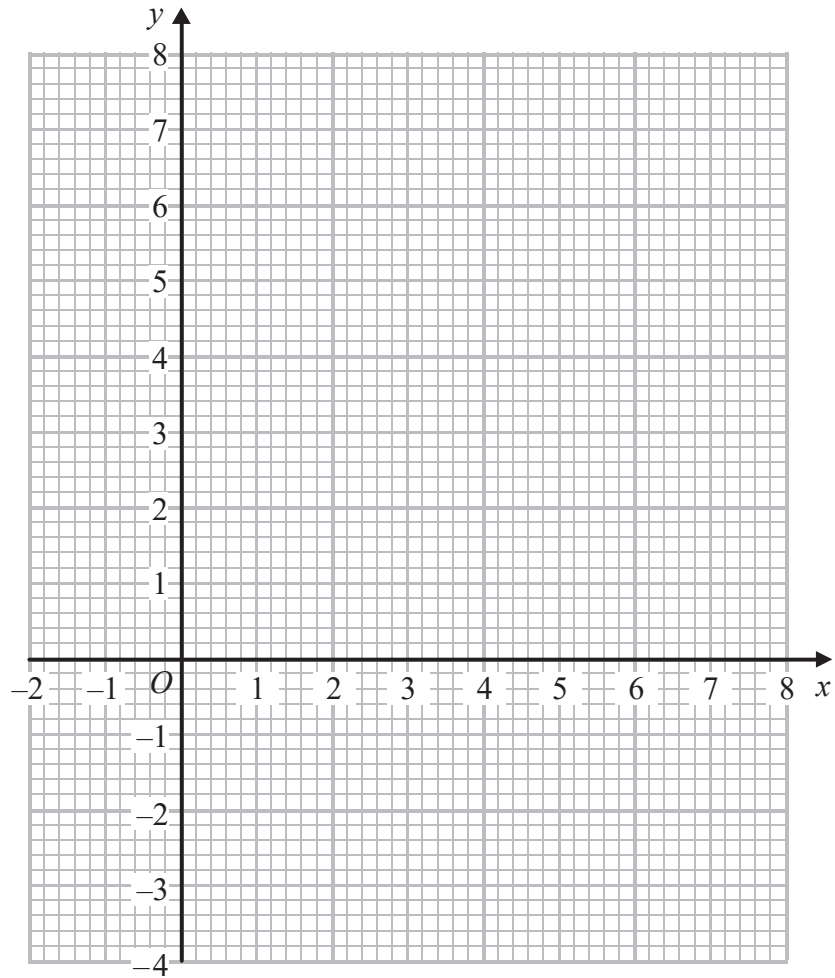
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Pearson

Question 1 continued



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(Total for Question 1 is 5 marks)



2 Solve the equations

$$y = x^2 - 6x + 5$$

$$y + x = 11$$

(5)

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(Total for Question 2 is 5 marks)



Question 4 continued

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(Total for Question 4 is 6 marks)



Question 5 continued

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(Total for Question 5 is 8 marks)



Question 6 continued

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(Total for Question 6 is 9 marks)



P 4 7 8 7 7 A 0 1 1 2 8

Question 7 continued

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(Total for Question 7 is 9 marks)



P 4 7 8 7 7 A 0 1 3 2 8

8

$$f(x) = x^2 + px + 7 \quad p \in \mathbb{R}$$

The roots of the equation $f(x) = 0$ are α and β

(a) Find, in terms of p where necessary,

(i) $\alpha^2 + \beta^2$ (ii) $\alpha^2\beta^2$ (4)

Given that $7(\alpha^2 + \beta^2) = 5\alpha^2\beta^2$

(b) find the possible values of p (2)

Using the positive value of p found in part (b) and without solving the equation $f(x) = 0$

(c) form a quadratic equation with roots $\frac{2p}{\alpha^2}$ and $\frac{2p}{\beta^2}$ (5)

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Question 8 continued

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P 4 7 8 7 7 A 0 1 5 2 8

Question 8 continued

Handwriting practice area consisting of 25 horizontal dotted lines.

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Question 8 continued

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(Total for Question 8 is 11 marks)



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Question 9 continued

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Handwriting practice area with 25 horizontal dotted lines.



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Question 9 continued

Handwriting practice area consisting of 20 horizontal dotted lines.

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Question 9 continued

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(Total for Question 9 is 15 marks)



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Question 10 continued

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Area with horizontal dotted lines for writing.



P 4 7 8 7 7 A 0 2 3 2 8

Question 10 continued

Handwriting practice area consisting of 20 horizontal dotted lines.

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Question 10 continued

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(Total for Question 10 is 16 marks)



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Question 11 continued

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Handwriting practice area with 25 horizontal dotted lines.



P 4 7 8 7 7 A 0 2 7 2 8

Question 11 continued

Area with horizontal dotted lines for writing.

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(Total for Question 11 is 10 marks)

TOTAL FOR PAPER IS 100 MARKS

