

Write your name here

Surname

Other names

**Pearson Edexcel
International GCSE**

Centre Number

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Candidate Number

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Further Pure Mathematics

Paper 1

Tuesday 14 June 2016 – Morning
Time: 2 hours

Paper Reference

4PM0/01

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 ►

P46901A

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PEARSON

Answer all TEN questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1

$$f(x) = x^3 - 7x + 6$$

- (a) Show that $(x - 2)$ is a factor of $f(x)$ (2)
- (b) Hence, or otherwise, factorise $f(x)$ completely. (3)

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Question 1 continued

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(Total for Question 1 is 5 marks)



Question 2 continued

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(Total for Question 2 is 7 marks)



3 A right pyramid $ABCDE$ has a square base $ABCD$ of side 10 cm.
The height of the pyramid is 8 cm.

(a) Find, to 3 significant figures, the length of AE .

(3)

(b) Find, in degrees to the nearest degree, the size of the angle between the plane ABE and the base $ABCD$.

(3)

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Question 3 continued

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(Total for Question 3 is 6 marks)



4 The n th term of an arithmetic series is t_n and the sum of the first n terms of the series is S_n

Given that $S_2 = \frac{2}{3}t_5$ and that $S_4 = t_{10} + 3$

(a) find

(i) the common difference of the series,

(ii) the first term of the series.

(5)

Given also that $S_{p+2} - S_p = 110$

(b) find the value of p .

(3)



Question 4 continued

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(Total for Question 4 is 8 marks)



Question 5 continued

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Handwriting practice area with 25 horizontal dotted lines.



Question 5 continued

Handwriting practice area with 25 horizontal dotted lines.

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Question 5 continued

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(Total for Question 5 is 9 marks)



Question 6 continued

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Handwriting practice area with 25 horizontal dotted lines.



Question 6 continued

Area with horizontal dotted lines for writing.

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Question 6 continued

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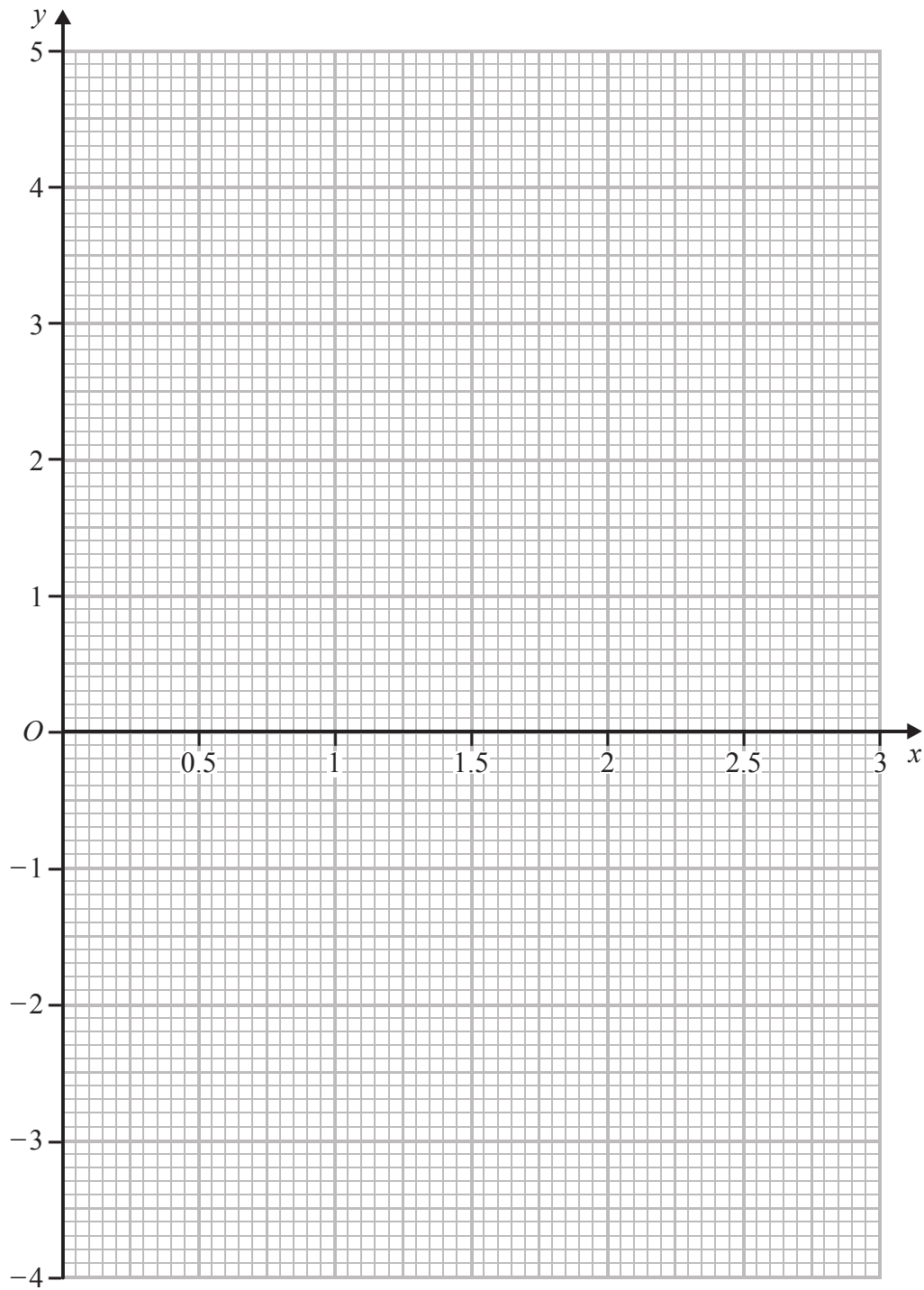
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(Total for Question 6 is 12 marks)



Question 7 continued



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Turn over for a spare grid if you need to redraw your graph.



Question 7 continued

Handwriting practice area consisting of 20 horizontal dotted lines.

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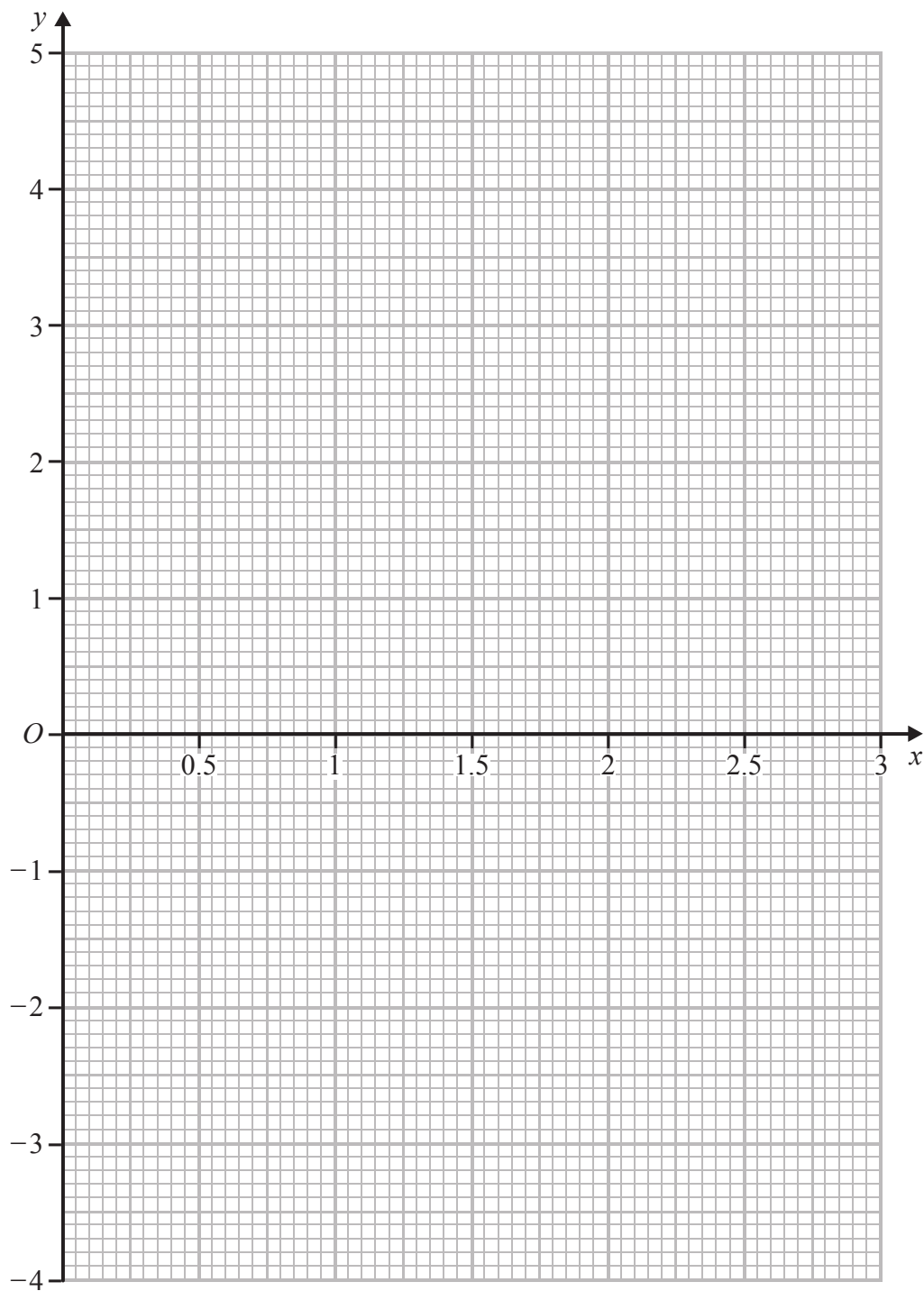
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Question 7 continued

Only use this grid if you need to redraw your graph



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(Total for Question 7 is 11 marks)



Question 8 continued

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Handwriting practice area with horizontal dotted lines.



Question 8 continued

Area with horizontal dotted lines for writing.

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Question 8 continued

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Area with horizontal dotted lines for writing.

(Total for Question 8 is 13 marks)



Question 9 continued

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Handwriting practice area with 25 horizontal dotted lines.



Question 9 continued

Handwriting practice area with 20 horizontal dotted lines.

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Question 9 continued

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(Total for Question 9 is 16 marks)



Question 10 continued

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Area with horizontal dotted lines for writing.



Question 10 continued

Area with horizontal dotted lines for writing.

(Total for Question 10 is 13 marks)

TOTAL FOR PAPER IS 100 MARKS

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