

Write your name here

Surname	Other names
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**Pearson Edexcel**                      Centre Number                      Candidate Number

**International GCSE**

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# Further Pure Mathematics

## Paper 1

Wednesday 21 May 2014 – Afternoon <b>Time: 2 hours</b>	Paper Reference <b>4PM0/01</b>
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<b>Calculators may be used.</b>	Total Marks
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**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* ►

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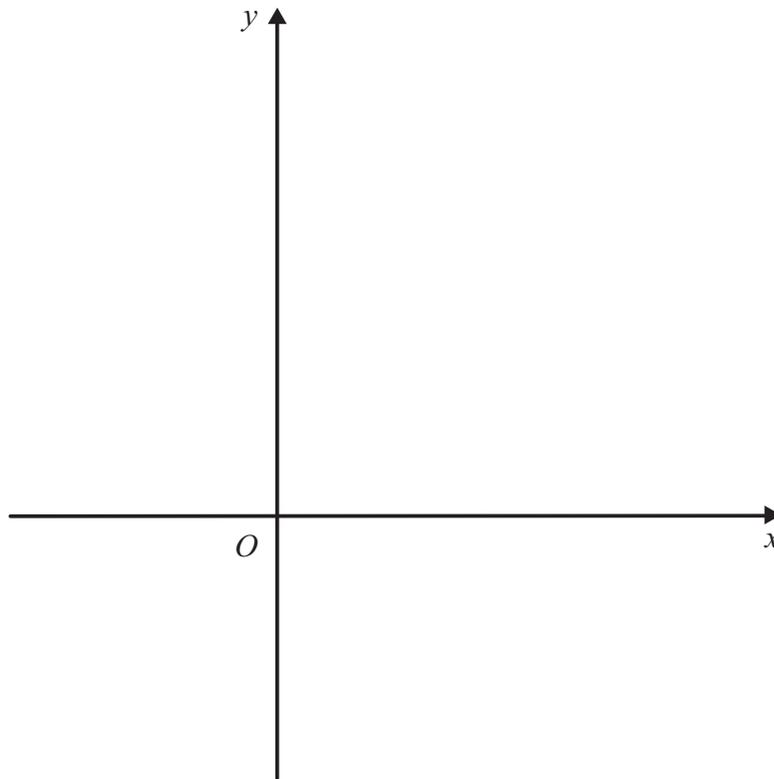


**Answer all TEN questions.**

**Write your answers in the spaces provided.**

**You must write down all stages in your working.**

- 1 (a) On the axes below, sketch the lines with equations  $y = x + 3$  and  $y + 2x = 7$   
 On your sketch mark the coordinates of the points where the lines cross the  $y$ -axis. (2)
- (b) Show, by shading on your sketch, the region  $R$  defined by the inequalities  
 $y \leq x + 3$ ,  $y + 2x \leq 7$ ,  $x \geq 0$  and  $y \geq 0$  (1)
- (c) Determine, by calculation, whether or not the point with coordinates  $(2, 2)$  lies in  $R$ . (2)



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**Question 4 continued**

A large rectangular area containing 25 horizontal dotted lines for writing the answer to Question 4.











**Question 6 continued**

A large rectangular area with rounded corners, containing 25 horizontal dotted lines for writing.







**Question 7 continued**

A large rectangular area containing 25 horizontal dotted lines for writing answers.







**Question 8 continued**

A large rectangular area containing 25 horizontal dotted lines for writing the answer to Question 8.







**Question 9 continued**

A large rectangular area containing 25 horizontal dotted lines for writing answers.



10

Diagram NOT accurately drawn

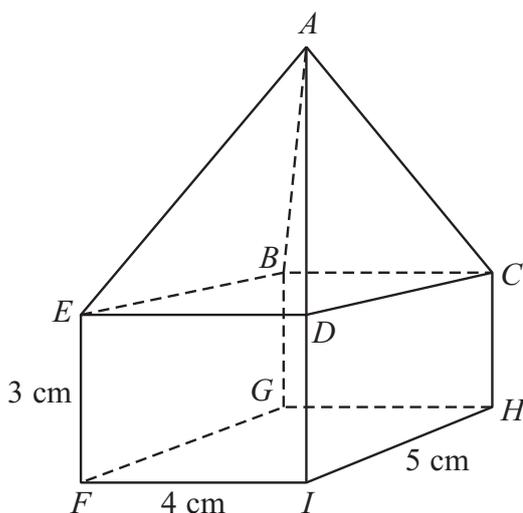


Figure 1

A paperweight  $ABCDEFGHI$  consists of a cuboid  $BCDEFGHI$  and a right pyramid  $ABCDE$  as shown in Figure 1.

$$EF = 3 \text{ cm}, \quad FI = 4 \text{ cm}, \quad IH = 5 \text{ cm}$$

The volume of the pyramid is equal to the volume of the cuboid.

(a) Show that the height of the pyramid is 9 cm. (2)

Find, in cm to 3 significant figures, the length of

(b)  $AE$ , (3)

(c)  $EH$ . (2)

Find, in degrees to the nearest  $0.1^\circ$ , the size of

(d) the angle between  $AE$  and the plane  $EBCD$ , (3)

(e) the obtuse angle between the plane  $ABE$  and the plane  $BEIH$ . (5)

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**Question 10 continued**

A large rectangular area containing 25 horizontal dotted lines for writing the answer to Question 10.



**Question 10 continued**

A large rectangular area containing 25 horizontal dotted lines for writing the answer to Question 10.



