UNIVERSITY OF CAMBRIDGE INTERI International General Certificate of Second CANDIDATE NAME	
CENTRE NUMBER	CANDIDATE NUMBER
CAMBRIDGE INTERNATIONAL MATHEMATICS	0607/05
Paper 5 (Core)	October/November 2011
	1 hour
Paper 5 (Core) Candidates answer on the Question Paper	
Additional Materials: Graphics Calculator	

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

Do not use staples, paper clips, highlighters, glue or correction fluid.

You may use a pencil for any diagrams or graphs.

DO NOT WRITE IN ANY BARCODES.

Answer all the questions.

You must show all relevant working to gain full marks for correct methods, including sketches.

In this paper you will also be assessed on your ability to provide full reasons and communicate your mathematics clearly and precisely.

At the end of the examination, fasten all your work securely together. The total number of marks for this paper is 24.

This document consists of 6 printed pages and 2 blank pages.



Answer all questions.

For iner's

INVESTIGATION MAXIMISING THE PERIMETER

Identical shapes can be joined to make larger shapes.

- 1 Squares of side 1 cm may be joined edge to edge, for example
 - but **not** like this.



(a) The diagram below shows a shape made of 3 squares and a shape made of 4 squares.

Draw a different shape made of 3 squares and a different shape made of 4 squares.

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(b) (i) The diagram below shows a shape, made of 5 squares, with a perimeter of 10 cm.

Draw two different shapes each made of 5 squares and each with a perimeter greater than 10 cm.

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	(iii)	6 squa	res.												cm
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Jumber of squares	2	3	4	5	6	7	8	9	10
reatest perimeter (cm)	6					16			10 22
(iii) How many square	s make	the shap	be when	the grea		rimeter i			
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2	Equilateral	triangles of side	1 cm may be join	ned edge to edge	, for example
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(a) Find the greatest perimeter for a shape made of 6 equilateral triangles.

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(b) (i) Complete this table.

but **not** like this.

Number of equilateral triangles	2	3	4	5	6	7	8
Greatest perimeter (cm)	4						10

(ii) Write down the greatest perimeter for a shape made of 10 equilateral triangles.

_____ cm

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(iii) How many equilateral triangles make the shape when the greatest perimeter is 18 cm?

we are assumed in terms of a few the another parimeter few a share made

(c) Write down an expression, in terms of x, for the greatest perimeter for a shape made of x equilateral triangles.

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ular hexa 3 Find an expression, in terms of x, for the greatest perimeter for a shape made of x regular hexa



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