

GENERAL CERTIFICATE OF SECONDARY EDUCATION MATHEMATICS C (GRADUATED ASSESSMENT

MODULE M7 - SECTION B

TUESDAY 13 MARCH 2007

Morning

Time: 30 minutes

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al calculator



* C U D / T	Candidates Additional n	n the question paper. Geometrical instrun Tracing paper (optic Scientific or graphic		
Δ 0 0 0 4 4 4	Candidate Name			

Centre			Candidate		
Number			Number		

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre Number and Candidate Number in the boxes above.
- Answer all the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- In many questions marks will be given for a correct method even if the answer is incorrect.
- Do not write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

- You are expected to use a calculator in Section B of this paper.
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this Section is 25.
- Section B starts with question 7.
- Use the π button on your calculator or take π to be 3·142 unless the question says otherwise.

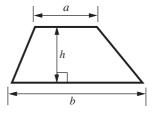
For Examiner's Use					
Section B					

This document consists of 8 printed pages.

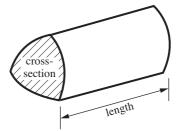
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Formulae Sheet

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = (area of cross-section) \times length



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7	(a)	To make 'dry mix', cement and sand are mixed in the ratio	1:3.
		Find the volume of cement and the volume of sand in 0.68 n	n ³ of dry mix.
			(a) Cement m ³
			Sandm ³ [2]
	4 ×		Sand[2]
	(b)	Mortar is made by adding water to dry mix. To lay 1000 bricks, $0.54 \mathrm{m}^3$ of mortar is used.	
		How much mortar is needed to lay 1800 bricks?	
			(b) m ³ [2]
			[4]
8	Wri	ite down the integers, n , which satisfy this inequality.	
		$4 \leq 2n < 11$	
			[3]
			3

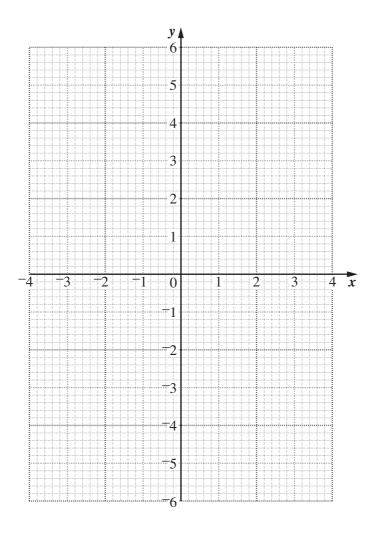
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9 (a) Complete the table of values for $y=x^2-3$.

x	-3	-2	-1	0	1	2	3
y	6		-2	-3	-2		6

[1]

(b) On the grid below, draw the graph of $y=x^2-3$ for values of x from -3 to 3.



[2]

(c) Use your graph to solve the equation $x^2-3=0$.

(c)[1]

4

10 (a) Simplify.

$$y^2 \times y^6$$

(a)[1]

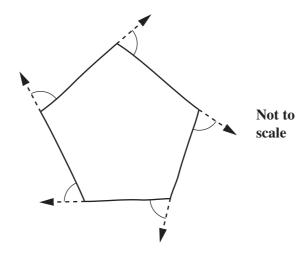
(b) Multiply out.

$$(x+3)(x+1)$$



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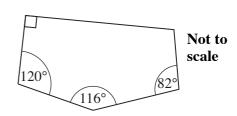
11 (a) Show that the exterior angle of a regular pentagon is 72°.



[1

(b) Four of the interior angles of an irregular pentagon are 90°, 120°, 116° and 82°.

Calculate the size of the remaining interior angle.



(b)	° [3
	4	

12 Anita picked 50 apples and weighed them. The results are summarised in the table below.

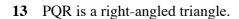
Weight (w grams)	Frequency
$60 \le w < 100$	13
$100 \le w < 140$	20
$140 \le w < 180$	11
$180 \le w < 220$	6

Calculate an estimate of the mean weight of these apples.

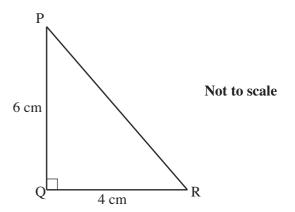
g [4]
4

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Calculate PR.



 	cm [3]
3	

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