

GENERAL CERTIFICATE OF SECONDARY EDUCATION MATHEMATICS C (GRADUATED ASSESSMENT)

M5^{B245B}

MODULE M5 - SECTION B

TUESDAY 13 MARCH 2007

Morning

Time: 30 minutes

Candidates answer on the question paper.

Additional materials: Geometrical instruments
Tracing paper (optional)
Pie chart scale (optional)
Electronic calculator



Candidate Name					
Centre Number			Candidate 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 9.

For Exam	iner's Use

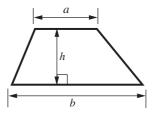
Section B

This document consists of 8 printed pages.

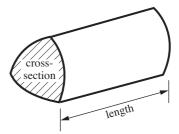
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Formulae Sheet

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



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



PLEASE DO NOT WRITE ON THIS PAGE

9	A manufacturer makes cars using one of two engine types and
	one of four body types.

You may not need to use all the lines.

Engine	<u>Body</u>
petrol (P)	saloon (S)
diesel (D)	hatchback (H)
	estate (E)
	coupe (C)

Body

(a) Complete the table to show all the different types of cars that can be made. The first one has been done for you.

Engine

P	S

[2]

(b) The manufacturer takes one of each type of car to a show. One of these cars is selected at random.

What is the probability that this car has a petrol engine and a saloon body?



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10 Here are the names of some quadrilaterals.

square	rectangle	kite
trapezium	parallelogram	rhombus

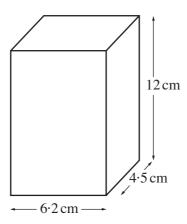
(a) Which two of these quadrilaterals have four equal sides?

(a)		,	[]	1	
-----	--	---	----	---	--

(b) Which one of these quadrilaterals has exactly **one** pair of parallel sides?



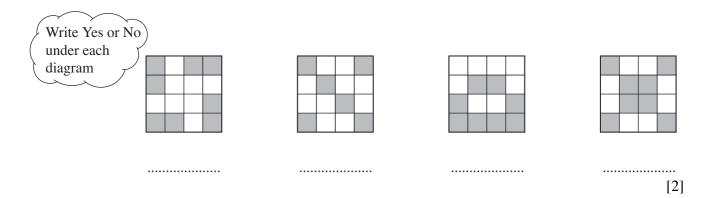
11



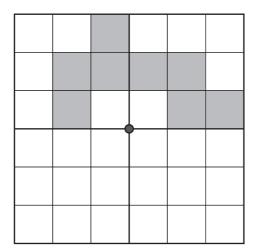
Calculate the volume of this cuboid.

..... cm³ [2]

12 (a) Which of these patterns have **rotation** symmetry?



(b) Shade 8 small squares so that this pattern has rotation symmetry of order 4 about its centre.



	[2]
4	

Three pupils were asked to work out the value of $5x^2$ when x = 10. **13**

These are their answers.

Rob:
$$5x^2 = 100$$

Sarah:
$$5x^2 = 2500$$

Tamsin:
$$5x^2 = 500$$

Which pupil is correct? Explain why this pupil is correct.

because	e	
		 [2]
		2

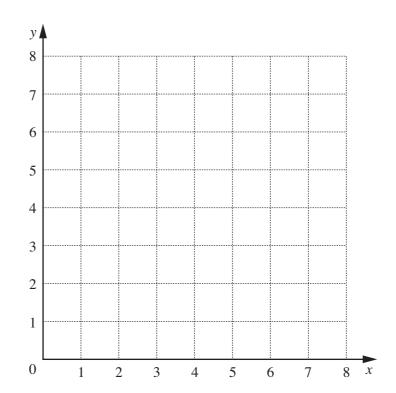
			6			
Me	Iton Rovers I	Football Club end	led the last 8	seasons v	vith these poi	ints.
		50	67	43	52	
		45	48	71	64	
Wo	rk out the me	ean number of po	ints.			
						(a)
		ton Rovers playedary of the goals so				
				ason.		
			cored last sea	ne le	games at hon	
		ary of the goals so	Hon	ne le	games at hon Away	

15 (a) Complete the table for y = x + 4.

x	0	1	2	3
y	4			

[1]

(b) Draw the graph of y = x + 4.



[2]

3

TURN OVER FOR QUESTION 16

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16 A local council asked all 420 adults in a village which of these they wanted most. The results are shown below.

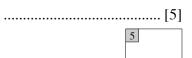
	Percentage
By-pass	55
Leisure Centre	23
Library	15
Bus Shelter	7

The local paper asked the 420 adults the same question.



How many **more** adults did the paper find in favour of the by-pass than the local council?

You must show your working.



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