

GENERAL CERTIFICATE OF SECONDARY EDUCATION MATHEMATICS C (GRADUATED ASSESSMENT)

M6 B246A

MODULE M6 - SECTION A

MONDAY 22 JANUARY 2007

Morning

Time: 30 minutes

Candidates answer on the question paper.

Additional materials: Geometrical instruments

Tracing paper (optional)



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

- 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.

WARNING
You are not allowed to use a calculator in Section A of this paper.

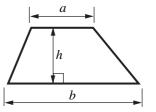
For Examiner's Use						
Section A						
Section B						
Total						

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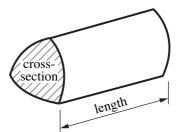
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Formulae Sheet

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



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



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					J		
1	(a)	Work out.					
		$\frac{2}{3} - \frac{1}{4}$					
						(a)	[2]
	(b)	Write the follo	owing in or	der of size, sta	rting with the si	mallest.	
		$\frac{2}{3}$	$\frac{7}{10}$	68%	0.6		
		smallest					[3
2	(a)	Sam simplifies She thinks the	s $p \times p \times p$ answer is 3	$\begin{array}{l} \times p \times p. \\ \overline{5}p. \end{array}$			
		Explain why h					
	(b)	Find the value					[1]
						<i>(</i> b)	[2
	(c)	Factorise.				(b)	[<i>2</i>]

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(c).....[1]

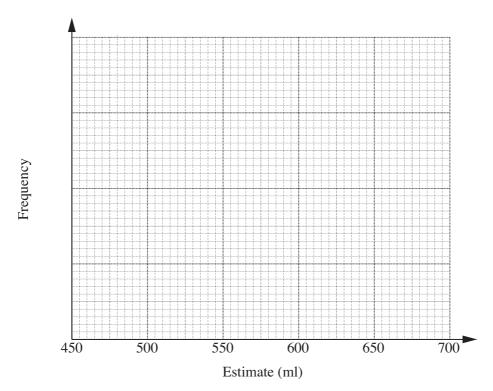
4

6x + 10

3 Eighty students were asked to estimate the amount of liquid in a bottle. Their estimates are summarised in this table.

Estimate (e ml)	450 < <i>e</i> ≤ 500	500 < <i>e</i> ≤ 550	550 < <i>e</i> ≤ 600	$600 < e \le 650$	$650 < e \le 700$
Frequency	4	10	16	34	16

(a) Draw a frequency diagram to represent the information.



(b) What is the modal group?

(b)	۱	1	
1177	/		

[3]

(c) Sian said that the smallest estimate was 450 ml.

Explain why this cannot be true.

.....[1]

	(d) 16 out of the 80 students estimated more than 650 ml.		
	What fraction of the students is this? Give your answer in its simplest form.		
		(d)	[2]
		()	7
4	Mushrooms cost £2·45 per kilogram.		
	Work out the cost of 2.6 kg of mushrooms.		
	You must show your working.		
		£	[3]
		٤	3

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5	Tom puts one party hat into each Christmas cracker.
	The hats are red, yellow or green.

The probability that a cracker contains a red hat is 0.35. The probability that a cracker contains a yellow hat is 0.4.

What is the probability that a cracker contains a green hat?

[<u>/</u>	2]
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2

7

Not to scale

In the diagram, ABCD is a quadrilateral. ADE is a straight line.

(a) Work out angle x.

	(a)° [3]	
(b)	Is BC parallel to AD?	
	Use angles to explain your answer.	
	because	
	[1]	

4

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