

## **GENERAL CERTIFICATE OF SECONDARY EDUCATION MATHEMATICS C (GRADUATED ASSESSMENT)**

MODULE M4 - SECTION A

**TUESDAY 13 MARCH 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.

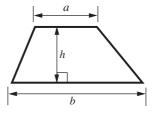
For Examiner's Use						
Section A						
Section B						
Total						

This document consists of 8	3	printed	pages.
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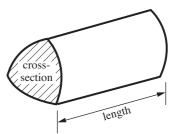
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## Formulae Sheet

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



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



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1 Some of these letters have rotation symmetry.

# **EXIST**

Put the letters in the correct column of the table.

no rotation symmetry	rotation symmetry order 2	rotation symmetry order 4

[3]

- 2 (a) Find the two mystery numbers.
  - the product of the numbers is 88
  - the difference between the numbers is 3

$$\star \times \star = 88$$

$$\star - \star = 3$$

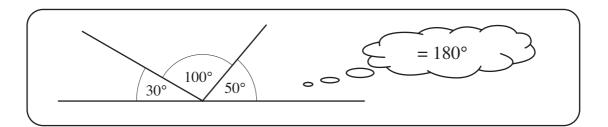
**(b)** Find the two mystery **fractions**.

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- the sum of the fractions is 1
- one fraction is the same as 0.25

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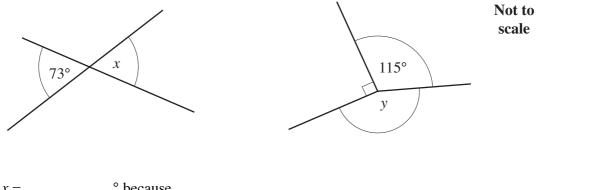
3 (a) This diagram shows an angle fact.



Write down the angle fact this shows.

.....[1]

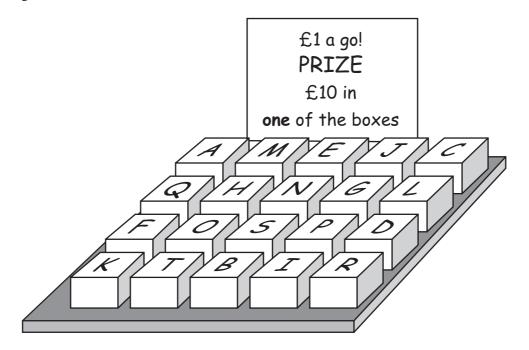
**(b)** Find angle *x* and angle *y*. Give a reason for each answer.



л -		occause		•••
y =	=°	because	[	[3]

4 Complete each of the statements below. Use numbers from this list.

5 This is a game at a fair.



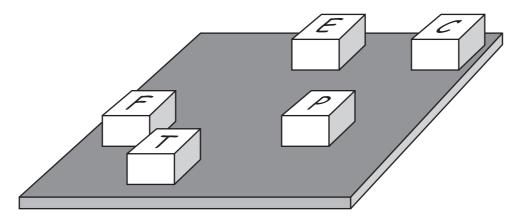
(a) Sue is the first person to choose a box.

What is the probability that she wins the prize?

(b) Sue comes back later.

The prize has not yet been won.

There are only 5 boxes left.



She says she needs to have 5 more goes to be **certain** that she will win the prize.

Is she right? Explain your answer.	
because	
	[1
	3

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6	(a)	Mrs. Fletcher wins the jackpot at a bingo hall. She gives all the prize money to her four grandchildren. They get £53·25 each.	
		How much was the prize money altogether?	
			(a) £[2]
	<b>(b)</b>	Mr. Dunkley wins £975 on a lottery. The £975 is shared equally between his 15 grandchildren.	
		How much does each grandchild receive? You must show your working.	
			<b>(b)</b> £[3]

Her	e are the	e first fo	our terms o	of a sequen	ice.						
	3	6	12	24							
<b>(i)</b>	Write	down th	e next teri	m in the sec	quence.						
(ii)	Explai	in how y	ou worke	-							
Her	e is the	term-to-	-term rule								[1]
			t term								
The	first te	rm of the	e sequenc	e is 37.							
Wh	at is the	next ter	m of the	sequence?							
								(b)		3	[1]
	(i)  (ii)  Her	(ii) Write  (ii) Explain	3 6  (i) Write down the second of the first term of the second of the se	3 6 12  (i) Write down the next term  (ii) Explain how you worke  Here is the term-to-term rule  To find the next term  subtract 5  The first term of the sequence	3 6 12 24  (i) Write down the next term in the second (ii) Explain how you worked out your	<ul> <li>(i) Write down the next term in the sequence.</li> <li>(ii) Explain how you worked out your answer.</li> <li>Here is the term-to-term rule for another sequence.</li> <li>To find the next term subtract 5</li> <li>The first term of the sequence is 37.</li> </ul>	3 6 12 24  (i) Write down the next term in the sequence.  (ii) Explain how you worked out your answer.  Here is the term-to-term rule for another sequence.  To find the next term subtract 5  The first term of the sequence is 37.	3 6 12 24  (i) Write down the next term in the sequence.  (ii) Explain how you worked out your answer.  Here is the term-to-term rule for another sequence.  To find the next term subtract 5  The first term of the sequence is 37.	3 6 12 24  (i) Write down the next term in the sequence.  (a)(i)  (ii) Explain how you worked out your answer.  Here is the term-to-term rule for another sequence.  To find the next term subtract 5  The first term of the sequence is 37.  What is the next term of the sequence?	3 6 12 24  (i) Write down the next term in the sequence.  (a)(i)	3 6 12 24  (i) Write down the next term in the sequence.  (a)(i)



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