

GENERAL CERTIFICATE OF SECONDARY EDUCATION MATHEMATICS C (GRADUATED ASSESSMENT)

MODULE M7 - 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.

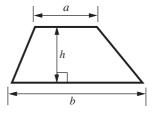
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Section A		
Section B		
Total		

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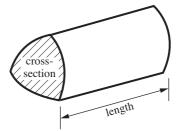
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Formulae Sheet

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



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



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1 (a) Find the cube root of 64.

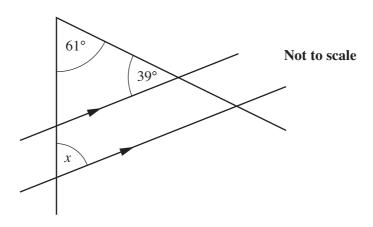
(a)	 [1]

(b) Simplify $\frac{5^7}{5^3}$

Give your answer as a power of 5.



2



Calculate the size of angle x.

Give a reason for each step of your working.

$x = \dots^{\circ}$ becaus	e	
•••••		 [3]

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3	Use ruler, compasses and pencil only to answer this question.
	Leave in all your construction lines.

PQR is an isosceles triangle. PQ=6 cm, PR=QR=8 cm.

(a)	Construct triangle PQR.			
	The base PQ is drawn for you.			



[1]

(b) Construct the bisector of angle P.

[2]

(c) A point S is inside the triangle.

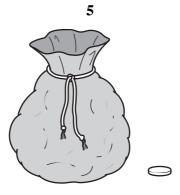
It is less than 4cm from P and closer to PQ than PR.

Construct and shade the region which contains S.

[2]



4



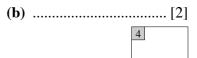
A bag contains red, blue and green counters. A counter is drawn at random from the bag. The probability that it is red is 0.4. The probability that it is blue is 0.25.

(a) What is the probability that it is green?

(a)		[2]
(a)	•••••	[4]

(b) There are 80 counters in the bag.

How many of them are blue?



5	(a)	Wri	ite 40 as a product of prime factors.	
	(b)	(i)	Find the lowest common multiple (LCM) of 40 and 24.	(a)[2]
		(ii)	Find the highest common factor (HCF) of 40 and 24.	(b)(i)[2]
				(ii)[1] 5

6	(a)	Solve.
v	aj	BUIVE.

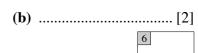
(i)
$$\frac{x}{5} = 15$$

(a)(i)		[1]
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(ii)
$$3x+13=2(x+9)$$

(b) Rearrange this formula to make b the subject.

$$P=2b+2h$$
.





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