

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

For Examiner's Use

General Certificate of Secondary Education
June 2006



MATHEMATICS (MODULAR) (SPECIFICATION B)
Module 3 Higher Tier Section A

43003/HA
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Practice Paper (Two-tier Specification) 2008

<p>For this paper you must have:</p> <ul style="list-style-type: none"> • a calculator • mathematical instruments • a treasury tag 	
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For Examiner's Use			
Section A		Section B	
Pages	Mark	Pages	Mark
2–3		2–3	
4–5		4–5	
6		6–7	
		8	
Total Section A			
Total Section B			
TOTAL			
Examiner's Initials			

Time allowed for Section A: 40 minutes

Instructions

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Use a calculator where appropriate.
- Do all rough work in this book.
- This paper is divided into two sections: Section A and Section B.
- After the 40 minutes allowed for Section A, you must put your calculator on the floor under your seat. You will then be given Section B.
- When you have answered Section B you may work again on Section A but you may **not** use your calculator. It must remain on the floor under your seat.
- At the end of the examination tag Section A and Section B together with Section A on top.

Information

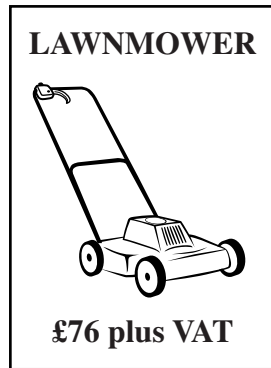
- The maximum mark for Section A is 32.
- The marks for questions are shown in brackets.
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

Answer **all** questions in the spaces provided.

- 1 (a) A lawnmower is advertised as shown.



VAT is added at 17.5%.

Work out the cost of the lawnmower including VAT.

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Answer £ (3 marks)

- (b) A shop has 40 lawnmowers for sale.
They sell 15 in one day.

What percentage is 15 out of 40?

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Answer % (2 marks)

- 2 Jeff is buying cartons of orange juice.
The cartons cost 34 pence each.

Show that he can buy more than twice as many cartons with £10 as he can with £5.

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(3 marks)

- 3 Find $\frac{4.8 \times 1.6}{5.8 - 1.9}$ giving your answer to one decimal place.

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Answer (2 marks)

- 4 (a) Roma invests £400 for three years at 4% compound interest.

Show that, at the end of the three years, she has a total investment of £449.95 to the nearest penny.

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(3 marks)

- (b) Calculate the percentage increase from £400 to £449.95

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Answer % (3 marks)

- 5 A trailer weighs 729 kilograms correct to the nearest kilogram.

Write down the least possible weight of the trailer.

Answer kilograms (*1 mark*)

- 6 There are 22 million houses in the United Kingdom.

- (a) On average each of these 22 million houses has a value of £82 000.

What is the total value of all these houses?
Give your answer in standard form.

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Answer £ (*2 marks*)

- (b) 7700 of the 22 million houses have a value of over £1 million.

What percentage of the total number of houses has a value of over £1 million?
Give your answer in standard form.

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Answer % (*3 marks*)

- 7 In a motor company the sales staff are paid a weekly bonus (B) according to how many cars they sell in that week (N).

The equation connecting B and N is $B = 20N^2$

- (a) Complete the bonus table.

Number of cars sold per week (N)	Bonus (B), £
0	0
1	
2	
3	180
4	
5	

(2 marks)

- (b) Tyrone said that his bonus for the last two weeks was a total of £810. Peter said that was not possible. Peter said, “Your bonus could have been £800 or £820 but not £810.”

Show that Peter is correct.

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(3 marks)

Turn over for the next question

- 8 Jose has 10 bottles containing fizzy drink.
Each bottle contains 2 litres of fizzy drink to the nearest 10 millilitres.
He pours the drink into cups.
Each cup holds 210 millilitres to the nearest 5 millilitres.

What is the maximum number of cups that he can fill?

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Answer (5 marks)

END OF SECTION A