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| Surname | | | | | | Other Names | | | | | |
| Centre Number | | | | | | Candidate Number | | | | | |
| Candidate Signature | | | | | | | | | | | |

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General Certificate of Secondary Education
June 2006



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

33003/IA

Wednesday 28 June 2006 9.00 am to 9.40 am

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|--|--|
| <p>For this paper you must have:</p> <ul style="list-style-type: none"> • a calculator • mathematical instruments • a treasury tag | |
|--|--|

| For Examiner's Use | | | |
|---------------------|------|-----------|------|
| Section A | | Section B | |
| Pages | Mark | Pages | Mark |
| 2–3 | | 2–3 | |
| 4–5 | | 4–5 | |
| 6 | | 6–7 | |
| 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. This 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 Calculate $0.8^2 + 1.75^3$

(a) Write down your full calculator display.

Answer (1 mark)

(b) Round your answer to part (a)

(i) to one significant figure

.....

Answer (1 mark)

(ii) to one decimal place.

.....

Answer (1 mark)

2 Charlie buys two kilograms of biscuits.

Biscuits cost £1.70 per kilogram.

He also buys 0.5 kilograms of nuts.

The total cost of the biscuits and the nuts is £4.15

What is the cost of one kilogram of nuts?

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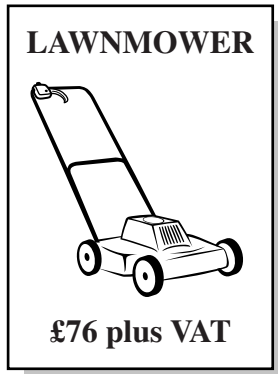
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Answer £ (4 marks)

3 (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)

- 4 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.

.....
.....
.....

(3 marks)

- 5 (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)

6 (a) Calculate 3^6

Answer (1 mark)

(b) A trailer weighs 729 kilograms correct to the nearest kilogram.

(i) Write down the least possible weight of the trailer.

Answer kilograms (1 mark)

(ii) Write down the greatest possible weight of the trailer.

Answer kilograms (1 mark)

7 Vivian and Jack shared the driving to their holiday cottage in the ratio 3 : 5
Jack drove further than Vivian.
The total distance travelled was 440 miles.

How far did Jack drive?

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Answer miles (2 marks)

Turn over for the next question

8 There are 22 million houses in the United Kingdom.

(a) Write 22 million in standard form.

Answer (1 mark)

(b) 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)

9 A DVD player is on sale at £97.20
This is a 10% reduction of the previous price.

What was the price of the DVD player before the reduction?

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Answer £ (3 marks)

END OF SECTION A

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There are no questions printed on this page