

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

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General Certificate of Secondary Education
June 2005



MATHEMATICS (MODULAR) (SPECIFICATION B) 33003/IA
Module 3 Intermediate Tier Section A

Wednesday 29 June 2005 9.00 am to 9.40 am

In addition to this paper you will require: <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 – 7		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 in the spaces provided.
- Do all rough work in this booklet.
- 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.
- Mark allocations are shown in brackets.
- Additional answer paper will be issued on request and must be tagged securely to this answer booklet.
- You are expected to use a calculator where appropriate.

Advice

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

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

- 1 (a) Aled is paid £4.80 per hour.
He works for 1 hour 20 minutes.

How much is Aled paid?

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Answer £ (2 marks)

- (b) In France, Jean is paid €8.30 per hour.
The exchange rate is €1 = £0.69

Convert €8.30 to pounds.

Give your answer to the nearest penny.

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Answer £ (3 marks)

- 2 (a) Work out 32% of £9.50

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Answer £ (2 marks)

- (b) Decrease £9.50 by 32%

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Answer £ (1 mark)

- 3 (a) Ann eats three-quarters of a pound of fruit each day.

How much fruit does she eat in seven days?

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Answer pounds (3 marks)

- (b) Tony eats $\frac{1}{4}$ kg of fruit each day.

He has 3 kg of fruit.

How many days will it take him to eat this fruit?

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Answer days (2 marks)

TURN OVER FOR THE NEXT QUESTION

Turn over ►

- 4 Joe wants to buy a pack of 10 CDs.
He sees two offers.

PRICECUT
Pack of 10 CDs
£7.70
plus 17.5% VAT

SAVERSTORE
Pack of 10 CDs
£8.99
including VAT

Which of these two packs is the cheaper?
You **must** show all your working.

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(3 marks)

- 5 A school spends £279 000 a year.
This is divided between staff salaries and other costs in the ratio 7 : 2

How much is spent on staff salaries?

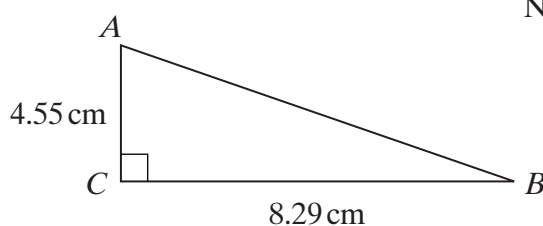
.....

.....

Answer £ (2 marks)

6 You are given that

$$AB = \sqrt{(8.29^2 + 4.55^2)}$$



Use your calculator to work out AB .

(a) Write down your full calculator display.

Answer cm (1 mark)

(b) Write your answer to 3 significant figures.

Answer cm (1 mark)

7 Nut toffees weigh 9 grams each, correct to the nearest gram.

(a) What is the minimum possible weight of a nut toffee?

Answer grams (1 mark)

(b) What is the maximum possible weight of a nut toffee?

Answer grams (1 mark)

TURN OVER FOR THE NEXT QUESTION

Turn over ►

8 The table shows the mass of 9 planets.

Planet	Mass of Planet (kg)
Mercury	3.3×10^{23}
Venus	4.9×10^{24}
Earth	6.0×10^{24}
Mars	6.4×10^{23}
Jupiter	1.9×10^{27}
Saturn	5.7×10^{26}
Uranus	8.7×10^{25}
Neptune	1.0×10^{26}
Pluto	1.5×10^{22}

(a) Which planet is the heaviest?

Answer (1 mark)

(b) Chris says that Earth is approximately 1.8 times as heavy as Mercury.

Is he correct?

You **must** explain your answer.

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(2 marks)

- (c) The population of the Earth is 6530 million.

Write 6530 million in standard form.

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Answer (1 mark)

- 9 (a) Rob invested £2500 in a building society account at 2% per year compound interest.

Calculate the total amount in the account after three years.

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Answer £ (3 marks)

- (b) Jane invested some money in a building society account.

Interest of 3% was added to the account after one year.

The total in the account after the interest was added was £221.45

How much money did Jane invest?

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Answer £ (3 marks)

END OF SECTION A

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE