

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

MODULE M4 – SECTION B

MONDAY 22 JANUARY 2007

M4^{B244B}

Morning

Time: 30 minutes

Candidates answer on the question paper.

Additional materials: Geometrical instruments
Tracing paper (optional)
Electronic calculator



Candidate
Name

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Centre
Number

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Candidate
Number

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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

- You are expected to use a calculator in Section B of this paper.
- 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.
- Section B starts with question 8.

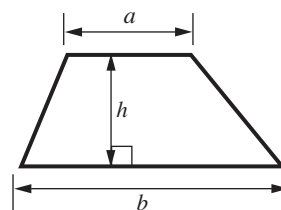
For Examiner's Use

Section B

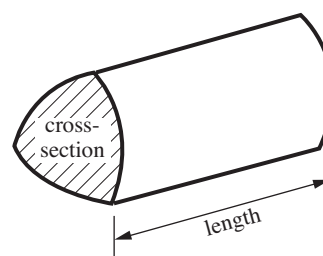
This document consists of **10** printed pages and **2** blank pages.

Formulae Sheet

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



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



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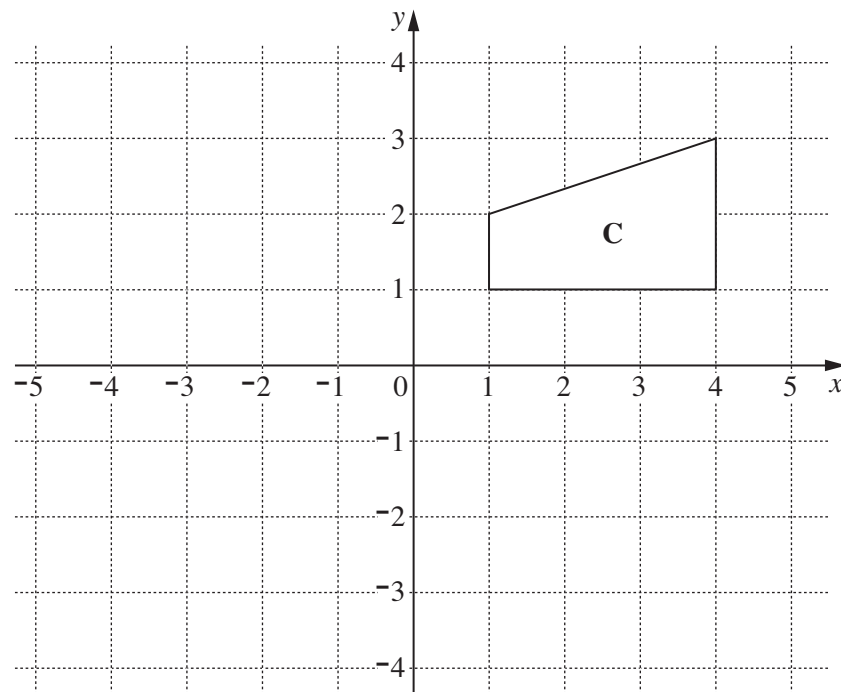
- 8 (a) Triangle **B** is a reflection of triangle **A**.

Draw in the mirror line for the reflection.



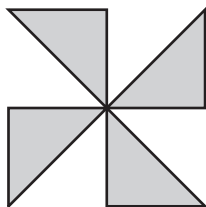
[1]

- (b) Reflect shape **C** in the x -axis.
Label the image **D**.

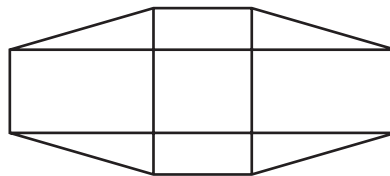


[1]

- (c) Write down the order of rotation symmetry for these patterns.



.....



.....

[2]

4

- 9 Dan cycles to and from work.

There are two different routes he can take.

- (a) One week Dan takes route A.

These are his journey times, in minutes.

14 18 12 18 20 16 19 13 21 12

- (i) What is the range of these times?

(a)(i)minutes [1]

- (ii) What is the median time?

(ii)minutes [2]

- (b) Another week Dan takes route B.

The range and median of his times, in minutes, are shown in the table.

	Range	Median
Route B	5	19

Which route should Dan take?

Explain your reason.

Route because

..... [1]

- 10 (a) *Your Music* uses this rule to work out their delivery charge for CDs ordered online.

45p for each CD
ordered

Write down an expression to work out the delivery charge, in pence, for n CDs.

(a) [1]

- (b) *CD Junction* uses this formula to work out their delivery charge

$$C = 20n + 50$$

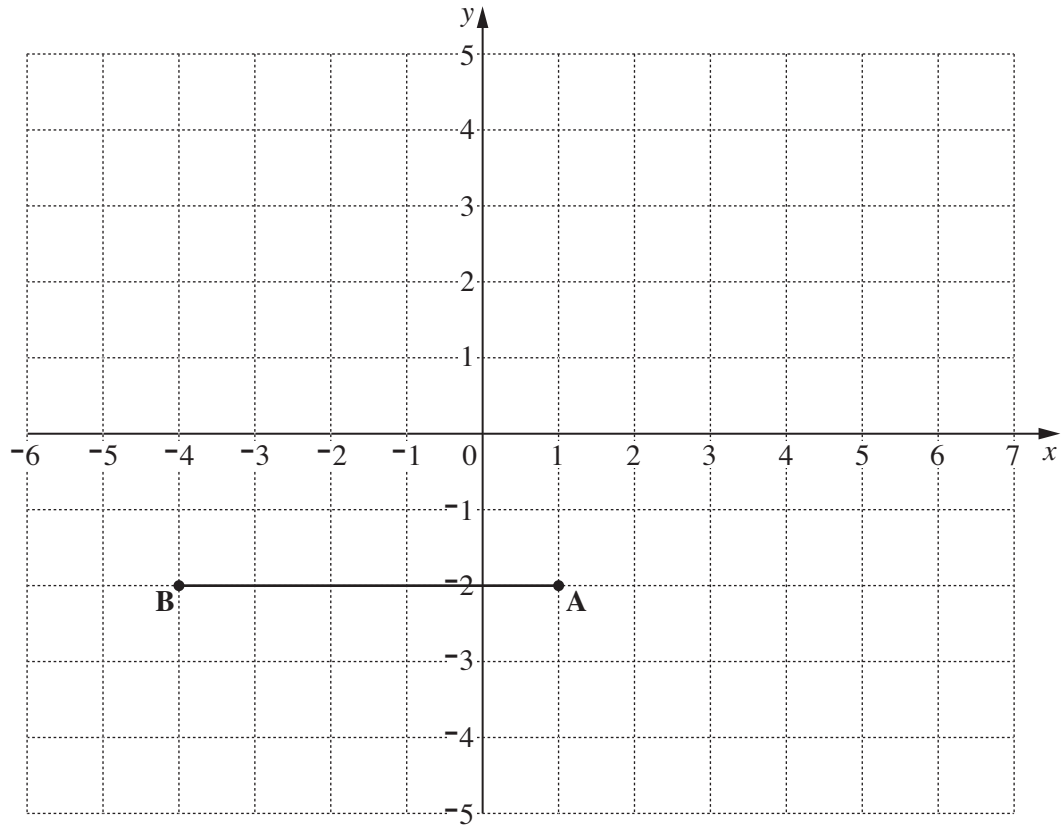
where C is the cost in pence,
and n is the number of CDs ordered.

What is the delivery charge, in **pence**, for 5 CDs from *CD Junction*?

(b) p [2]

3

11



(a) Write down the coordinates of point A.

(a) (..... ,)[1]

(b) Plot the point $(-1, 2)$ and label it C.

[1]

(c) **ABCD** is a parallelogram.

(i) Plot point **D** and join the points to complete the parallelogram.

[1]

(ii) Write down the coordinates of point **D**.

(c)(ii) (..... ,)[1]

4	

- 12 Maya is making cakes for a cake stall.

Maya uses this recipe to make rock cakes.

Rock cakes	
Makes 10	
225g	self raising flour
$\frac{1}{2}$	teaspoon mixed spice
100g	butter
75g	sugar
125g	mixed fruit
1	egg

She makes 40 rock cakes.

Complete this list to show the ingredients for 40 rock cakes.

Rock cakes	
Makes 40	
..... g	self raising flour
.....	teaspoons mixed spice
..... g	butter
..... g	sugar
..... g	mixed fruit
.....	eggs

[3]

3	
---	--

13 Here are the first 4 terms of a sequence.

96 48 24 12

(a) Write down the next two terms.

(a) and [2]

(b) What is the rule to get from one term of the sequence to the next?

..... [1]

3

- 14** Stilton cheese costs £8.45 per kilogram.
Cheddar cheese costs £7.65 per kilogram.

Alison buys 0.4 kg of Stilton and some Cheddar.
She spends a total of £7.97.

What weight of Cheddar cheese did she buy?

0.4 kg	Stilton at	£8.45 per kg
..... kg	Cheddar at	£7.65 per kg
Total cost			£7.97

..... kg [4]

4

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