

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M2 – SECTION A

B272A

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)

Thursday 21 January 2010
Afternoon

Duration: 30 minutes



Candidate Forename		Candidate Surname	
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Centre Number							Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

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**.
- This document consists of **8** pages. Any blank pages are indicated.

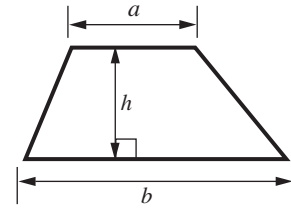
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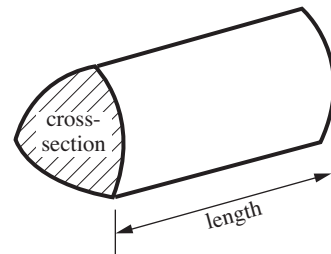
No calculator can be used for Section A of this paper

Formulae Sheet

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

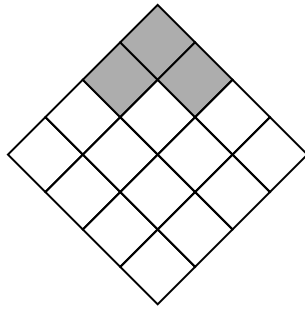


Volume of prism = (area of cross-section) \times length



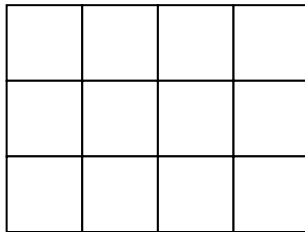
PLEASE DO NOT WRITE ON THIS PAGE

1 (a) What fraction of this shape is shaded?



(a) [1]

(b) Shade $\frac{1}{4}$ of this shape.



[1]

(c) Here are some statements.

Write T (true) or F (false) to show whether each statement is true or false.

Statement	True/False
$\frac{1}{2}$ is the same as 50%	
$\frac{1}{4}$ is the same as 40%	
25% of 60 m is 25 m	
25% of £160 is £40	
50% of 7 m is 3.5 m	
50% of £60 is £30	

[3]

(d) Complete each of these sentences with the correct decimal.

$\frac{3}{10}$ is the same as

$\frac{3}{4}$ is the same as

[2]

2 Here is a railway timetable for trains from Victoria Town to Alberton.
The arrows show that a train does **not** stop at certain stations.

Victoria Town	0932	0954	1022	1038	1054
Ellsburton	0948	1010	1038	1054	1110
Highworth	0953	1015	↓	↓	1115
Bulledown	0958	1020	↓	↓	1120
Partock	1004	1026	↓	↓	1126
Great Harewood	1016	1038	1058	↓	1138
Heale	1022	1044	1104	↓	1144
Alberton	1034	1056	1116	1132	1156

(a) Sunil gets the 1058 train from Great Harewood.

What time does this train arrive at Alberton?

(a) [1]

(b) Andrea is at Bulledown station at 1100.

What time is the next train from Bulledown to Alberton?

(b) [1]

(c) Bill must get to Alberton by 1110.

What is the time of the latest train he can catch from Victoria Town?

(c) [1]

(d) Ruth has to get to Alberton by 1130.
She walks into Highworth station at 1030.

Explain why she cannot get to Alberton on time by train.

.....

 [1]

3 (a) Here are some temperatures in °C.

30 -5 -18 3 -10

Write the temperatures in order, starting with the coldest.

..... [2]
coldest

(b) A freezer is set at -18°C and a fridge is set at 3°C .

How many degrees warmer is the fridge than the freezer?

(b)°C [1]

4 Mary has 5 boxes of crayons.
There are 36 crayons in each box.

Work out how many crayons Mary has.

..... [2]

- 5 (a) Here are the first four terms of a number pattern.

4 10 16 22

- (i) Write down the next term in this number pattern.

(a)(i) [1]

- (ii) Explain how you worked out your answer.

..... [1]

- (b) Here are the first five terms of a different number pattern.

50 49 47 44 40

Write down the next term in this number pattern.

(b) [1]

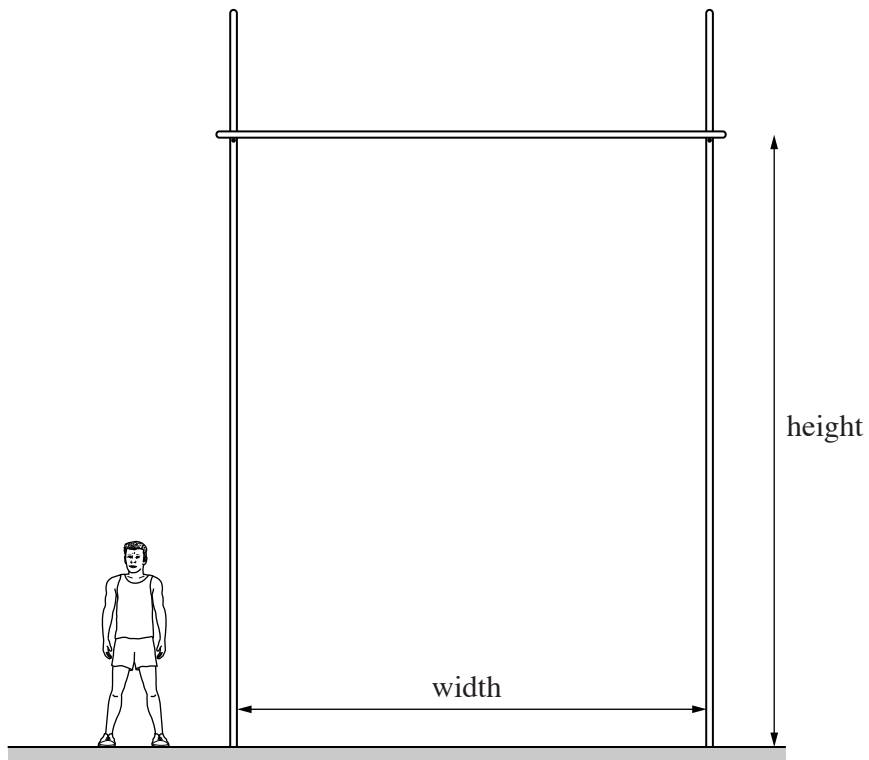
- 6 Mr and Mrs McRobert take their 2 children to the cinema.
Here are the ticket prices.

Ticket	Price
Child	£3.00
Adult	£5.40
Family (2 adults + 2 children)	£15.00

How much cheaper is it for the McRoberts to buy a Family ticket instead of 4 separate tickets?
Show your working clearly.

£ [4]

7 The diagram shows a man standing next to a pole vault bar and uprights.



(a) Estimate the height of the bar above the ground.

(a) m [1]

(b) Estimate the width between the uprights.

(b) m [1]

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