

**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	
--------------------	--	-------------------	--

Centre Number						Candidate Number				
---------------	--	--	--	--	--	------------------	--	--	--	--

MODIFIED LANGUAGE


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.

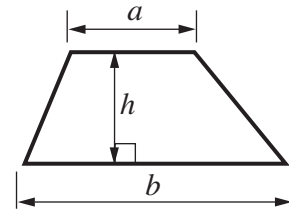
WARNING



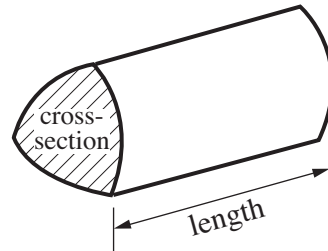
No calculator can be used for Section A of this paper

Formulae Sheet

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

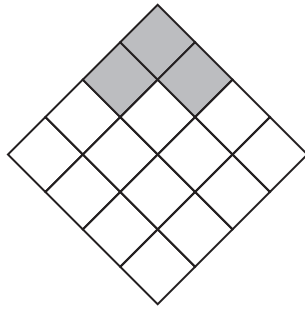


Volume of prism = (area of cross-section) \times length



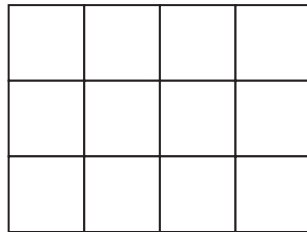
PLEASE DO NOT WRITE ON THIS PAGE

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]

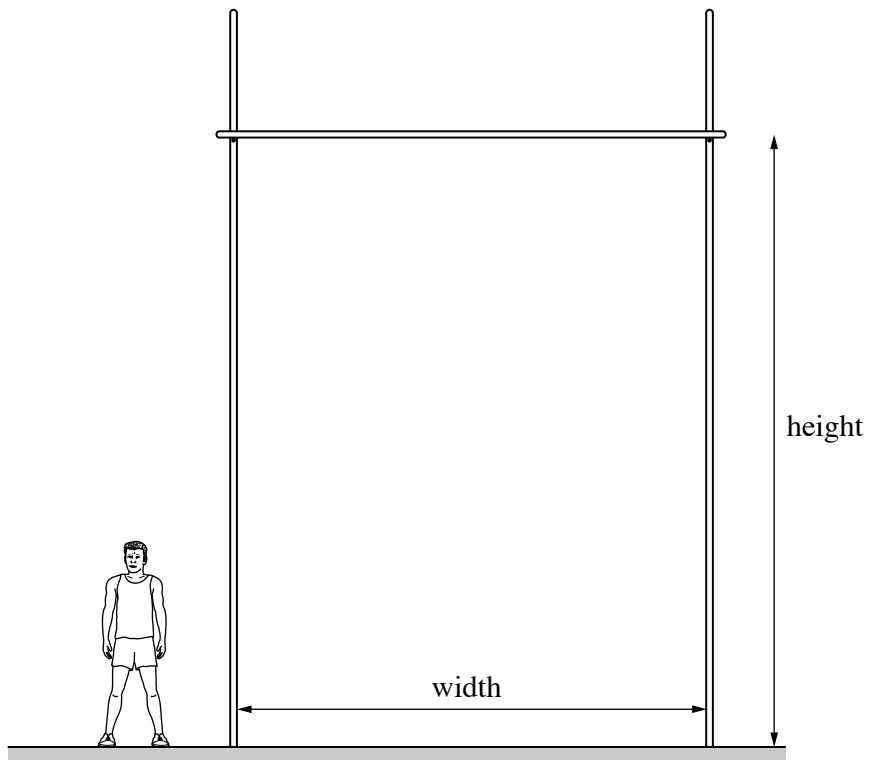
- 6 Mr and Mrs McRobert take their 2 children to the cinema.
Here are the ticket prices.

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

The McRoberts buy a Family ticket instead of 4 separate tickets. How much do they save?
Show your working clearly.

£ [4]

7 The diagram shows a man standing beside 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]

PLEASE DO NOT WRITE ON THIS PAGE



Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations, is given to all schools that receive assessment material and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.