

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B272A

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M2 – SECTION A

THURSDAY 21 JANUARY 2010: Afternoon

DURATION: 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Tracing paper (optional)

WARNING

**No calculator can be used for
Section A of this paper.**

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

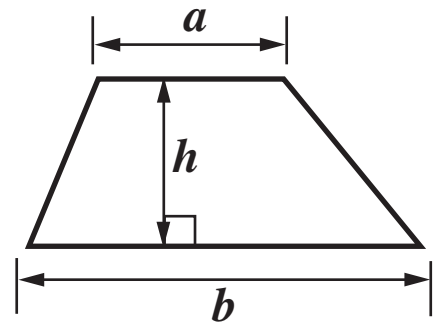
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Answer ALL the questions.**
- **Write your answer to each question in the space provided, however additional paper may be used if necessary.**

INFORMATION FOR CANDIDATES

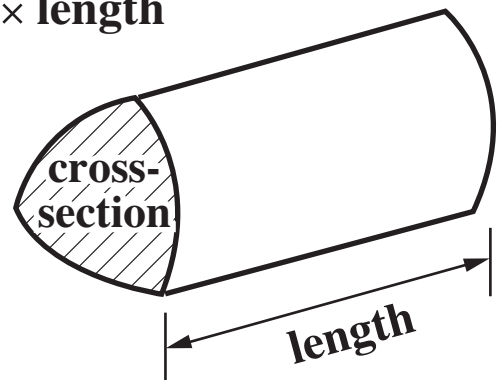
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

Formulae Sheet

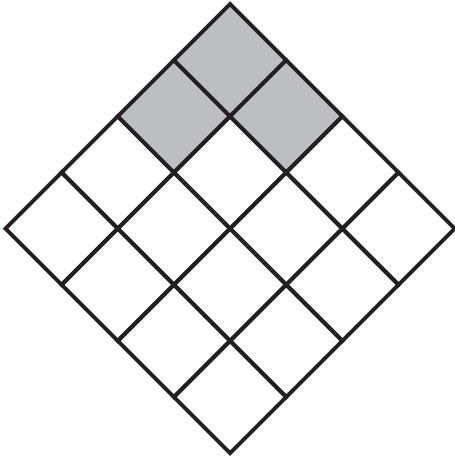
Area of trapezium = $\frac{1}{2} (a + b)h$



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

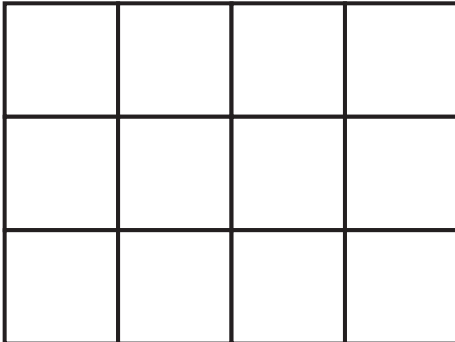


- 1 (a) What fraction of this shape is shaded?
[1 mark]



(a) _____

- (b) Shade $\frac{1}{4}$ of this shape.
[1 mark]



(c) Here are some statements.

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

[3 marks]

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	

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

[2 marks]

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

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

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?

[1 mark]

(a) _____

(b) Andrea is at Bulledown station at 1100.

What time is the next train from Bulledown to Alberton?

[1 mark]

(b) _____

(c) Bill must get to Alberton by 1110.

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

[1 mark]

(c) _____

(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 mark]

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

30 -5 -18 3 -10

Write the temperatures in order, starting with the coldest.

[2 marks]

_____ *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?

[1 mark]

(b) _____ °C

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

**Work out how many crayons Mary has.
[2 marks]**

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.
[1 mark]**

(a)(i) _____

**(ii) Explain how you worked out your answer.
[1 mark]**

(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.
[1 mark]**

(b) _____

- 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

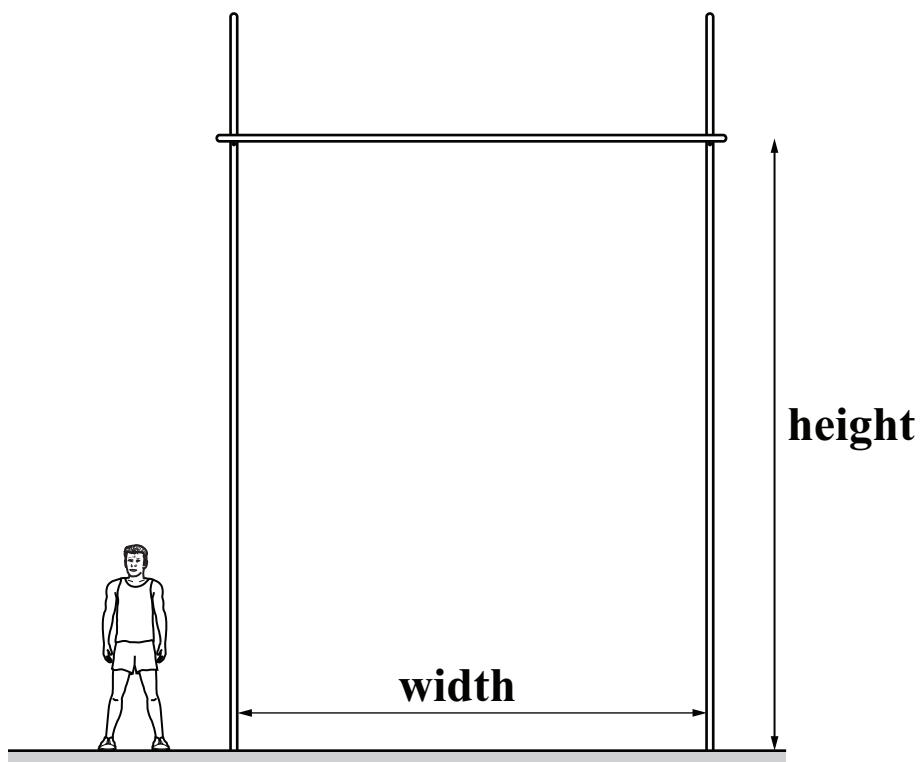
How much cheaper is it for the McRoberts to buy a Family ticket instead of 4 separate tickets?

Show your working clearly.

[4 marks]

£ _____

- 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.
[1 mark]

(a) _____ m

- (b) Estimate the width between the uprights.
[1 mark]

(b) _____ m

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