OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C

MODULE M2 – SECTION A

SPECIMEN

B272/A

Candidates answer on the question paper.

Additional Materials:
    Geometrical instruments
    Tracing paper (optional)

Time: 30 minutes

Candidate Name	

Centre Number						Candidate Number				

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

- 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.

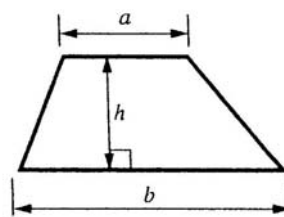**WARNING** You are not allowed to use a calculator in this paper.
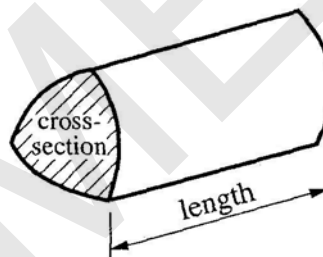
For Examiner's Use

Section A

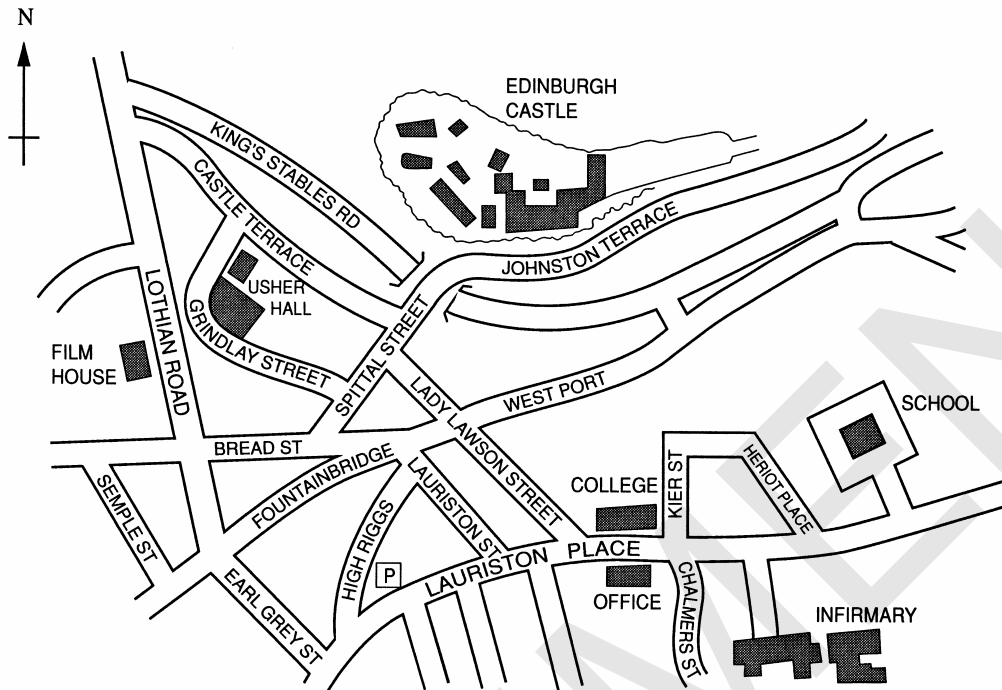The document consists of **10** printed pages and **2** blank pages.

FORMULAE SHEET

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

Volume of prism = (area of cross-section) x length

1 This is a map of part of Edinburgh.

(a) Sian walks along West Port and turns left into Lady Lawson Street.
She then turns left into Lauriston Place.

(i) Which building is on her left?

(a)(i) _____ [1]

(ii) In which compass direction is she walking now?
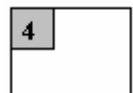
(ii) _____ [1]

(b) Barbara leaves Usher Hall and walks to the school.
Complete these instructions for her journey by filling in the gaps.

Turn left out of Usher Hall into Grindlay Street and
then turn left into …………………………………………………
Take the first ………………. into Lady Lawson Street and
then the second left into …………………………………………… and
then the …………………………. left to the school. [2]

[4]

[Turn over

2 The table shows the typical body weight, in **kilograms**, and brain weight, in **grams**, of some animals.

Animal	Body Weight (kilograms)	Brain Weight (grams)
Baboon	30	140
Blue Whale	60000	6000
Camel	540	700
Dolphin	160	1700
Elephant	6000	6000
Human	65	1400
Monkey	7	100

(a) What is the body weight, in kilograms, of a camel?

(a) _____ kg [1]

(b) Which of the animals has a brain weight of 1400 grams?

(b) _____ [1]

(c) A blue whale's brain has a weight of 6000 grams.
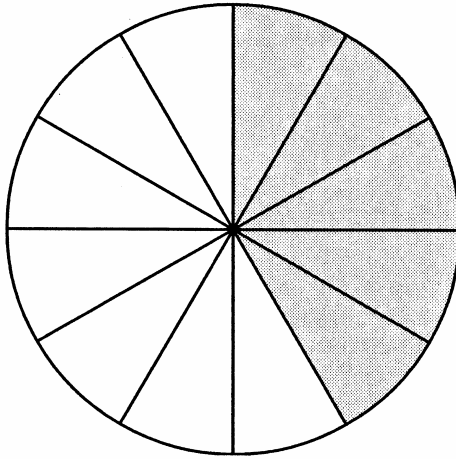
How many kilograms is 6000 grams?

(c) _____ kg [1]

(d) The heaviest of all brains is the sperm whale's brain.
These can weigh nine thousand two hundred grams.

Write nine thousand two hundred in figures.

(d) _____ [1]

4

3 **(a)** What fraction of this shape is shaded?
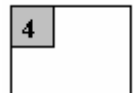
(a) _____ [1]

(b) **(i)** Shade $\dfrac{3}{10}$ of this shape.

[1]

(ii) Write $\dfrac{3}{10}$ as a decimal.

(b)(ii) _____ [1]

(c) Work out $\dfrac{1}{4}$ of 28.

(c) _____ [1]

4

[Turn over

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4   A school hires four coaches.
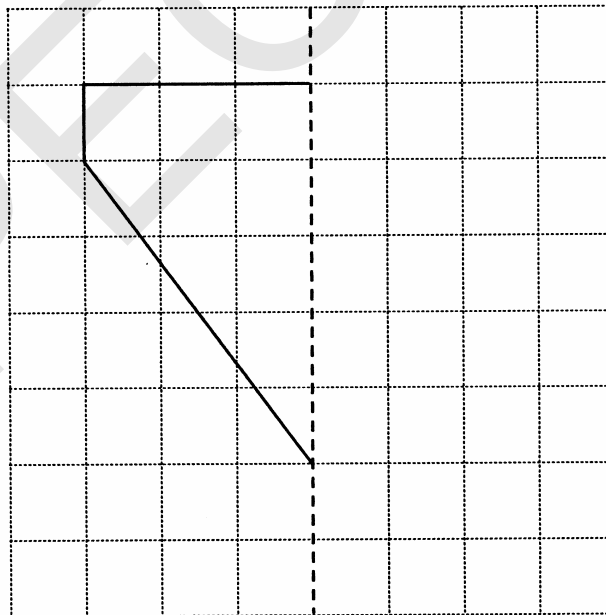   Each coach has 63 people on it.

         Work out the total number of people on the four coaches.

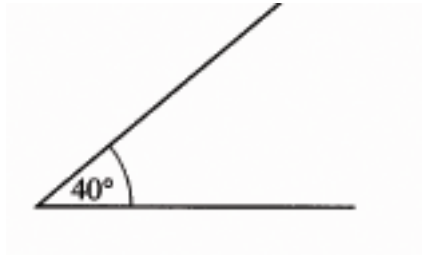   [2]
         _____

5 **(a)** Complete this shape so that it has one line of symmetry.
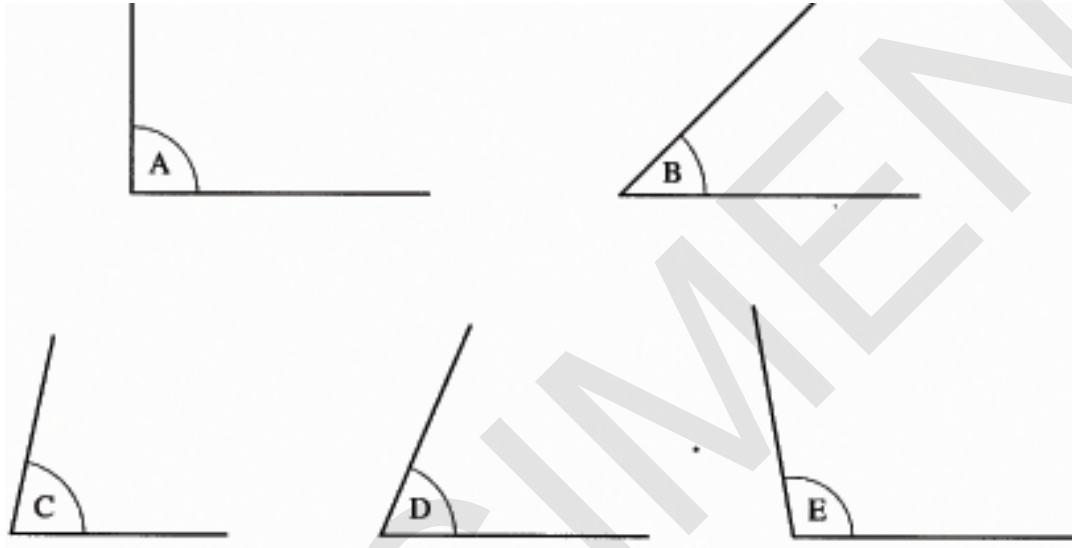
line of symmetry   [2]

5 **(b)** This angle is 40°.

Look at these angles.

Complete this sentence.

Angle .... is nearest to 80°.

[1]

3

6 For each of these number patterns, write down the rule which gives the next number.

The first one has been done for you.

Number Pattern						Rule	
7	9	11	13	15	17	**+2 each time**	
4	9	14	19	24	29		[1]
1	2	4	8	16	32		[1]

2

7 Rajiv has these cards.

1	1	2	2	4

Laura takes one without looking.

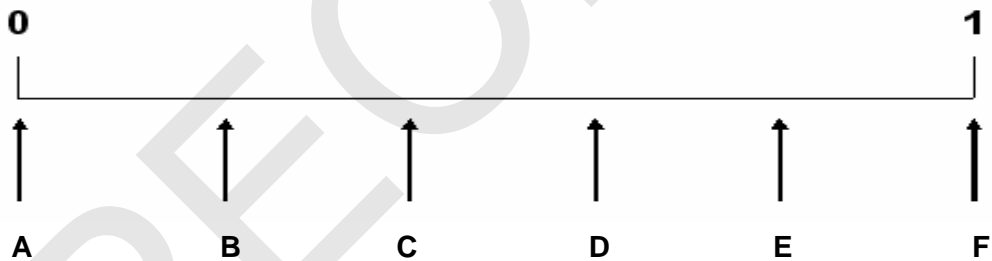**0**   **1**

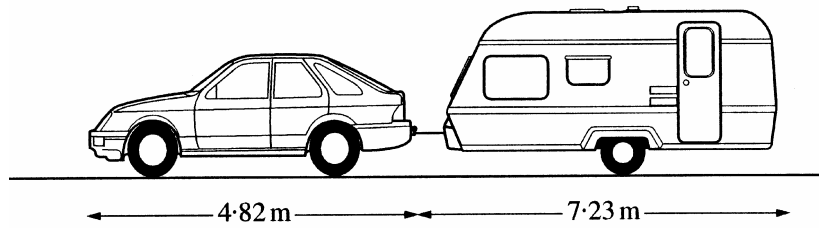   A   B   C   D   E   F

Complete these sentences.

Arrow _____ **points to the probability that Laura chooses a 5.**

Arrow B points to the probability that Laura chooses a _____ [2]

2

8 **(a)** Keith has a car which is towing a caravan.

←————— 4·82 m —————→ ←————— 7·23 m —————→

Work out the **total** length of the car and caravan.

(a) _____ m [2]

(b) Keith drives under a low bridge.

Maximum height 4 m

h

2·65 m
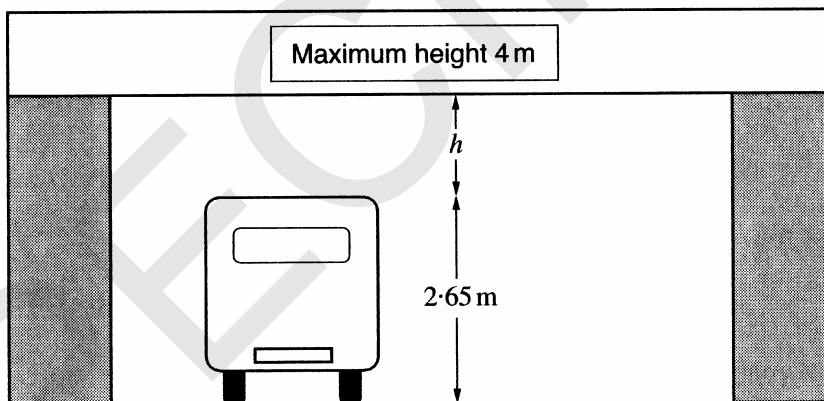
Work out the distance, h, between the top of the caravan and the bridge.

(b) _____ m [2]

Section A Total [25]

10

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12
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OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS C   B272/A

MODULE M2 – SECTION A

Specimen Mark Scheme

The maximum mark for this paper is 25.

1	(a)(i)	College	1			
	(ii)	E(ast)	1			
	(b)	Spittal Street Tight Lauriston 3rd	2			All correct, award 1 for one error
			4			
2	(a)	540	1			
	(b)	Humans	1			
	(c)	6	1			
	(d)	9200	1			
			4			
3	(a)	$\dfrac{5}{12}$	1			
	(b)(i)	any 6 shaded or indicated	1			
	(ii)	0.3	1			
	(c)	7	1			
			4			
4		correct method for 63 x 4 252	M1 A1 2		W2	Allow 63 + 63 + 63 + 63 For 252
5	(a)	All correct	2		W1	for 1 line correct, length and position
	(b)	C	1			
			3			
6		+ 5 each time o.e. x 2 (or doubling) each time	1 1 2			
7		A 4	1 1 2			

8	(a)	attempt 4.82 + 7.23	M1			$\Rightarrow$ figs. 1105 1205 1305 or 12.5
		12.05	A1			*or* **W2**
	(b)	attempt at 4 – 2.65	M1			$\Rightarrow$ 135, 235, 145, 245, 045 seen
		1.35	A1			*or* **W2**
			4			

Section A Total 25

Assessment Objectives Grid

Question	AO2	AO3	AO4	Total
1		4		**4**
2	1	1	2	**4**
3	4			**4**
4	2			**2**
5		3		**3**
6	2			**2**
7			2	**2**
8	4			**4**
Totals	**13**	**8**	**4**	**25**