

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

B272A

Candidates answer on the question paper

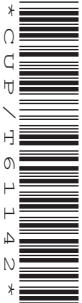
OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)

Tuesday 20 January 2009
Morning

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.

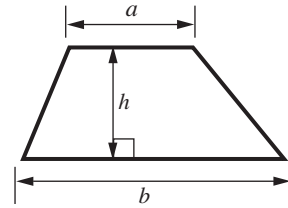
WARNING

No calculator can be used for Section A of this paper

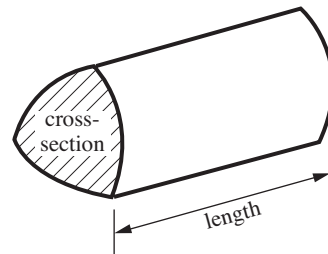
FOR EXAMINER'S USE	
SECTION A	
SECTION B	
TOTAL	

Formulae Sheet

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

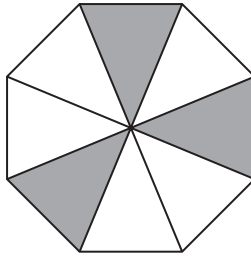


$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



PLEASE DO NOT WRITE ON THIS PAGE

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



(a) [1]

(b) Shade $\frac{1}{6}$ of this shape.



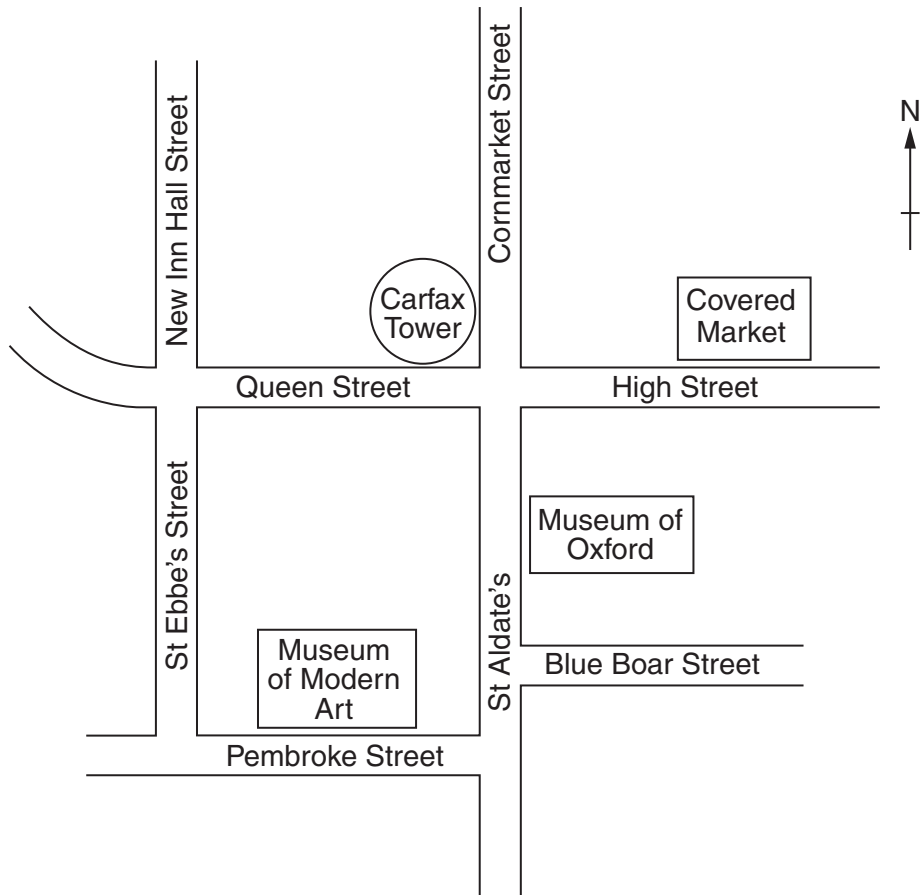
[1]

(c) Complete this table.

Fraction		Decimal
$\frac{1}{2}$	is the same as	0.5
$\frac{1}{10}$	is the same as	
	is the same as	0.75

[2]

2 This is a sketch map of part of Oxford.



(a) Craig is at the crossroads at Carfax Tower.
He walks south.

What street is he in?

(a) [1]

(b) Tina walks out of the Covered Market into High Street to go towards Carfax Tower.

Does she turn right or left?

(b) [1]

(c) Complete these instructions to get from the Museum of Modern Art to the Museum of Oxford.

Turn left out of the Museum of Modern Art into

Take the first into St Aldate's.

The Museum of Oxford is on your [2]

3 Fill in the missing numbers in this number pattern.

$$22 \times 9 + 2 = 200$$

$$222 \times 9 + 22 = 2020$$

$$\dots \times \dots + \dots = 20220$$

$$22222 \times 9 + 2222 = \dots$$

$$222222 \times 9 + 22222 = 2022220$$

[2]

4 Work out.

(a) 24×7

(a) [1]

(b) $81 \div 3$

(b) [1]

5 Anita is redecorating her home office.

(a) She needs 27 carpet tiles for the floor.
The tiles are sold in packs of 5.

(i) How many packs of tiles does she need to buy?

(a)(i) [1]

(ii) How many spare tiles will she have?

(ii) [1]

(b) Anita needs 4 metres of cable for her telephone extension.
The cable costs 65p per metre.

How much does 4 metres of cable cost?
Give the units of your answer.

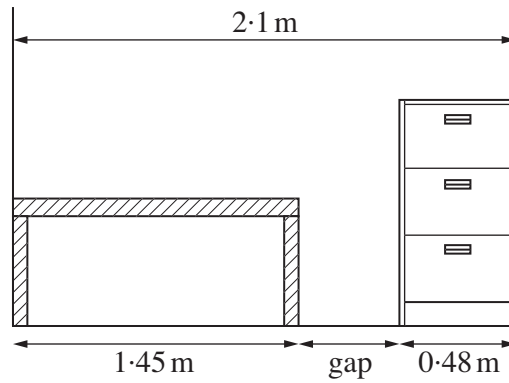
(b) [2]

(c) Anita buys a desk and a filing cabinet.

The desk is 1.45 metres wide.

The filing cabinet is 0.48 metres wide.

She puts the desk and filing cabinet along a wall 2.1 metres long.



Not to scale

How wide is the gap between the desk and the filing cabinet?

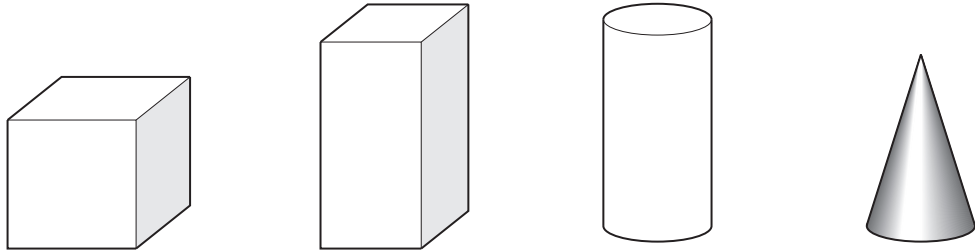
(c) m [3]

TURN OVER FOR QUESTION 6

6 Jay has a set of building blocks which are different solid shapes.

(a) Write down the name of each of these solids.
Choose from this list.

cone cylinder cuboid sphere pyramid cube



..... [3]

(b) There are 20 cuboids in the set.

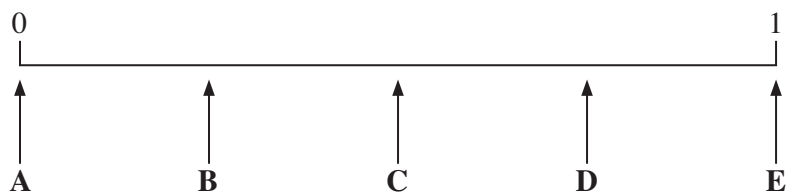
- 5 of them are red
- 3 of them are yellow
- 2 of them are green
- the rest are white

All of the cuboids are put in a bag and Jay takes one out without looking.

(i) Which colour is he most likely to take?

(b)(i) [1]

(ii) The probability line below is marked with arrows.



Complete these statements.

Arrow shows the probability that Jay's cuboid is red.

Arrow shows the probability that Jay's cuboid is white. [2]