

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M5 – SECTION A

B275A

Candidates answer on the question paper

OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Pie chart scale (optional)
- Tracing paper (optional)

Tuesday 23 June 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.

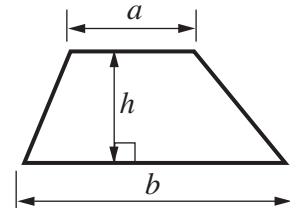
WARNING



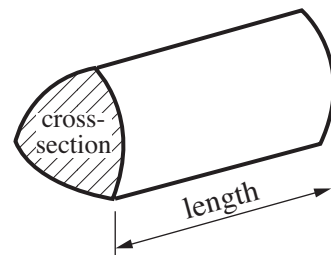
No calculator can be used for Section A of this paper

Formulae Sheet

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

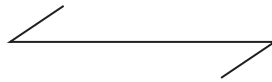


$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



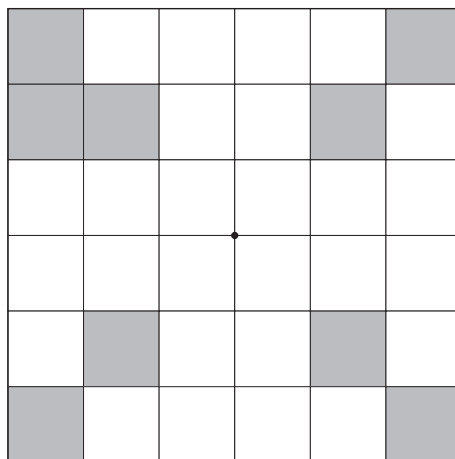
PLEASE DO NOT WRITE ON THIS PAGE

1 (a) Write down the order of rotation symmetry of this shape.



(a) [1]

(b) Shade **three** more squares in this grid so that it has rotation symmetry of order 4.



[2]

2 (a) Find the cube of 3.

(a) [1]

(b) Write $2 \times 2 \times 2 \times 2$ using index notation.

(b) [1]

(c) Write $\frac{25}{30}$ as a fraction in its simplest terms.

(c) [1]

(d) Work out.

$$\frac{3}{7} \times \frac{1}{4}$$

(d) [1]

(e) Work out.

(i) $1 + ^{-3}$

(e)(i) [1]

(ii) $2 \times ^{-4}$

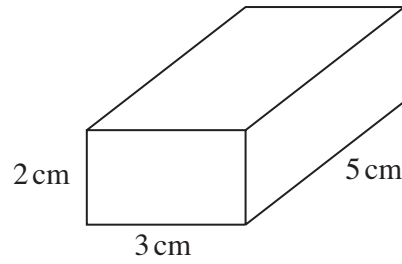
(ii) [1]

3 (a) Complete this table for a cuboid.

Number of vertices	8
Number of edges	
Number of faces	

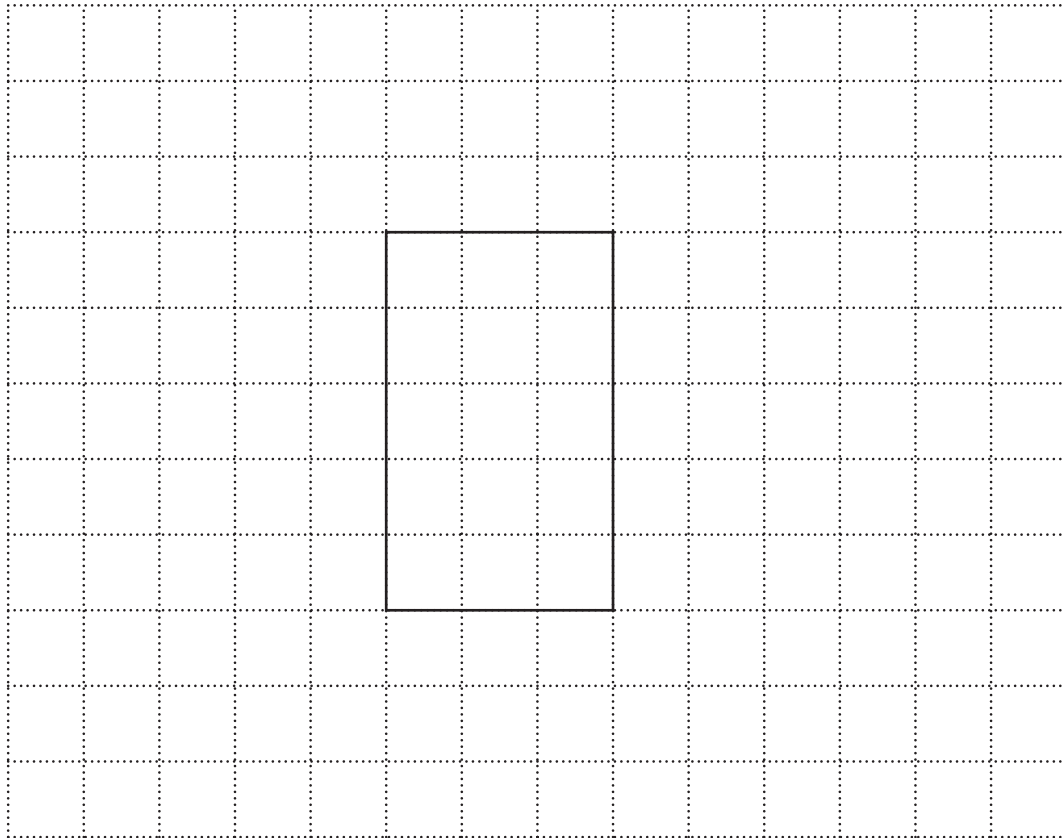
[2]

(b) (i) Calculate the volume of this cuboid.



(b)(i) cm³ [2]

(ii) Complete the full-size net of the cuboid.
One face has been drawn for you.



[3]

4 Jenny earns £50.
She saves 30% of this.

Ana earns £40.
She saves $\frac{2}{5}$ of this.

Work out who saves more and by how much.
Show how you decide.

*Write Jenny
or Ana.*

..... saves more by £[4]

5 (a) Simplify.

$$2a + 3c + 7a - c$$

(a) [2]

(b) Solve.

(i) $12 = x + 8$

(b)(i) [1]

(ii) $2x - 5 = 6$

(ii) [2]

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