

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M6 – SECTION A

B276A

Candidates answer on the Question Paper

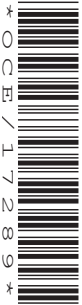
OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)

Thursday 21 January 2010
Afternoon

Duration: 30 minutes



Candidate Forename		Candidate Surname	
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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.

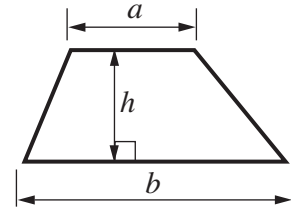
WARNING



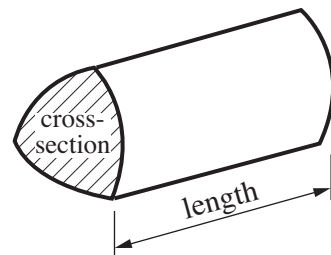
No calculator can be used for Section A of this paper

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) Simplify.

(i) $a \times a \times a \times a$

(a)(i) [1]

(ii) $3c \times 2c$

(ii) [1]

(b) Solve.

$$5x = 3x + 7$$

(b) [2]

(c) Multiply out.

$$3(5 - 2x)$$

(c) [2]

- 2 (a) One weekend, 150 people visited a gym on Saturday and 360 visited it on Sunday.

What is the ratio of Saturday visitors to Sunday visitors?
Give your answer in its lowest terms.

(a)..... :[2]

- (b) This table shows the probabilities for the length of time that a visitor, chosen at random, spends at the gym.

Time	Probability
less than 30 minutes	0.1
30 minutes to 1 hour	0.3
more than 1 hour	

Complete the table.

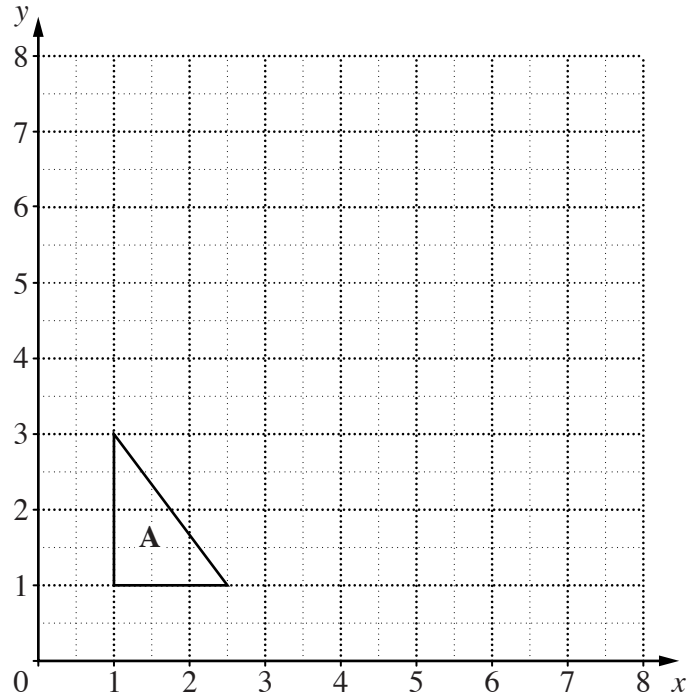
[2]

- (c) It costs two adults £17 altogether to visit the gym.

Work out the cost for five adults.

(c) £.....[2]

3



- (a) Enlarge triangle **A** with scale factor 2 and centre (0, 0).
Label the image **B**.

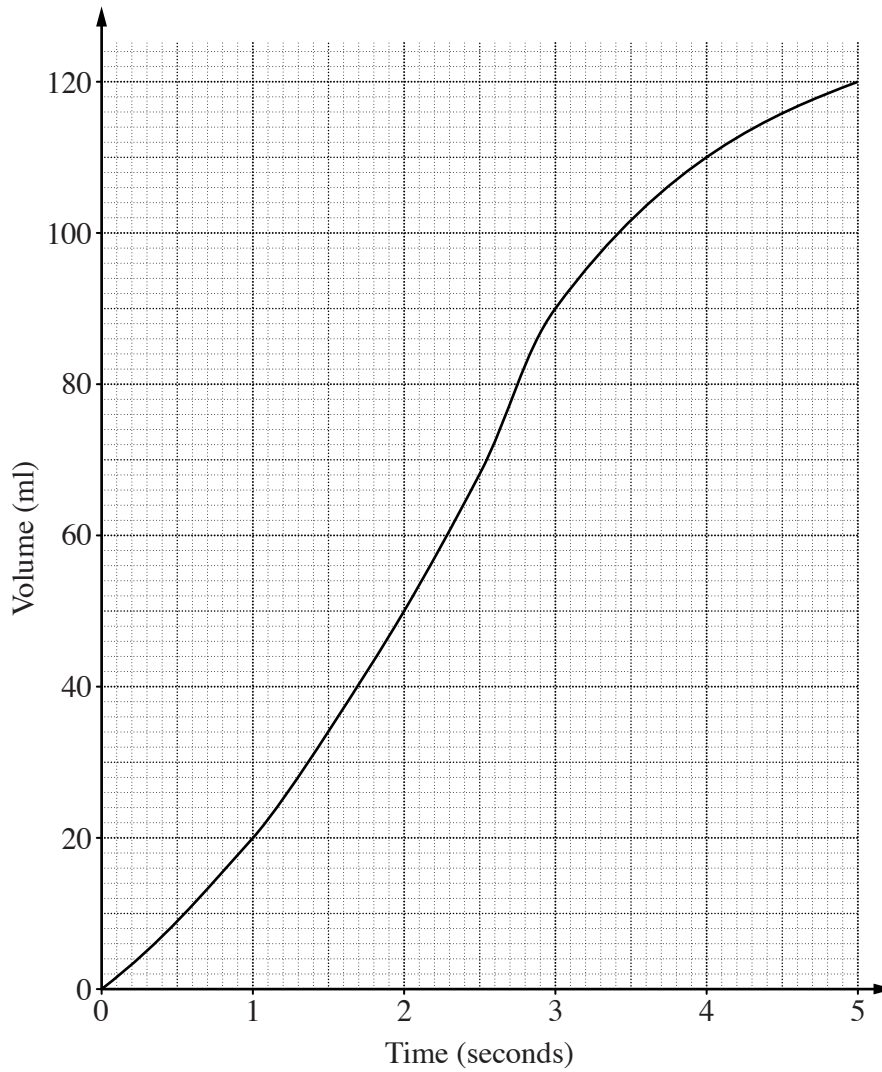
[2]

- (b) The perimeter of triangle **A** is 6 cm.
Choi draws an enlargement of triangle **A** with scale factor 4.

What is the perimeter of Choi's triangle?

(b) cm [1]

- 4 Jamie poured water into a glass until it was full.
This graph shows the volume of water in the glass as Jamie filled it.



- (a) What was the volume of water in the glass when it was full?

(a).....ml [1]

- (b) How long after Jamie started pouring was the glass half-full?

(b) seconds [1]

- (c) Explain how you can tell from the graph when Jamie was pouring water most quickly.

.....
..... [1]

5 (a) Work out.

(i) $6 - 2 \times 5$

(a)(i) [1]

(ii) $(4 + 2)^2$

(ii) [1]

(b) Write $\frac{7}{20}$ as a decimal.

(b) [2]

(c) Work out.

$$\frac{6}{7} \div \frac{4}{3}$$

Give your answer as a fraction in its simplest form.

(c) [3]

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