

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**

**B276A**

**MATHEMATICS C  
(GRADUATED ASSESSMENT)**

**MODULE M6 – 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**

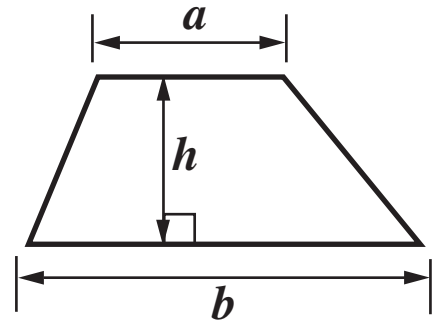
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **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**

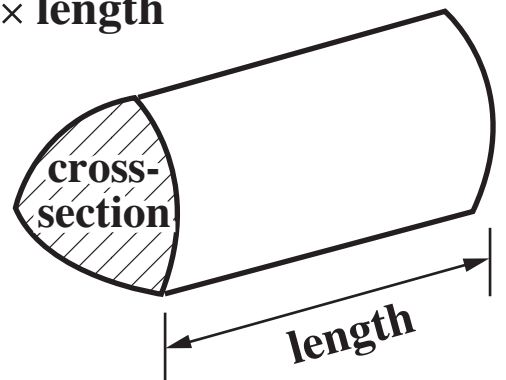
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

## Formulae Sheet

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



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



**1 (a) Simplify.**

**(i)  $a \times a \times a \times a$**   
**[1 mark]**

**(a)(i)** \_\_\_\_\_

**(ii)  $3c \times 2c$**   
**[1 mark]**

**(ii)** \_\_\_\_\_

**(b) Solve.**

**$5x = 3x + 7$**   
**[2 marks]**

**(b)** \_\_\_\_\_

**(c) Multiply out.**

$$3(5 - 2x)$$

**[2 marks]**

**(c)** \_\_\_\_\_

- 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.

[2 marks]

(a) \_\_\_\_\_ : \_\_\_\_\_

- (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 marks]

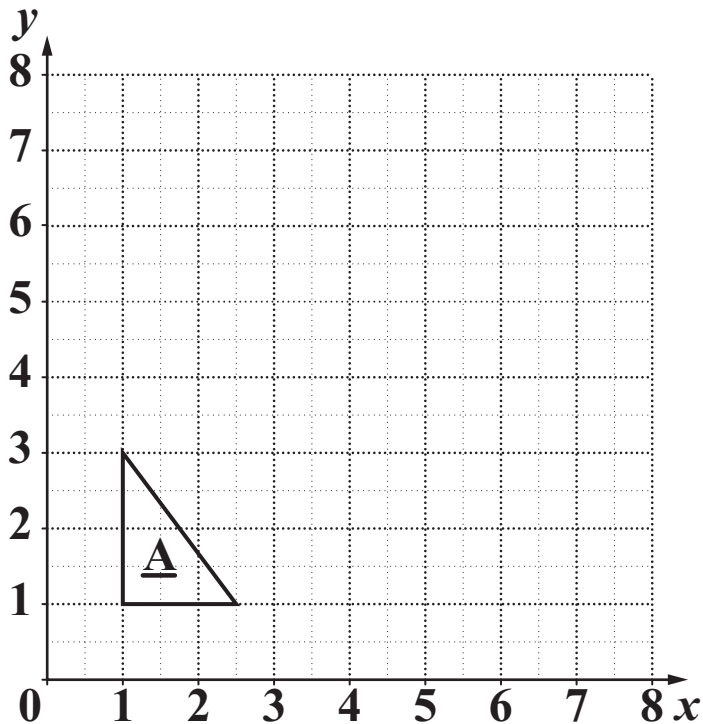
- (c) It costs two adults £17 altogether to visit the gym.

Work out the cost for five adults.

[2 marks]

(c) £ \_\_\_\_\_

3 The diagram below shows triangle A.



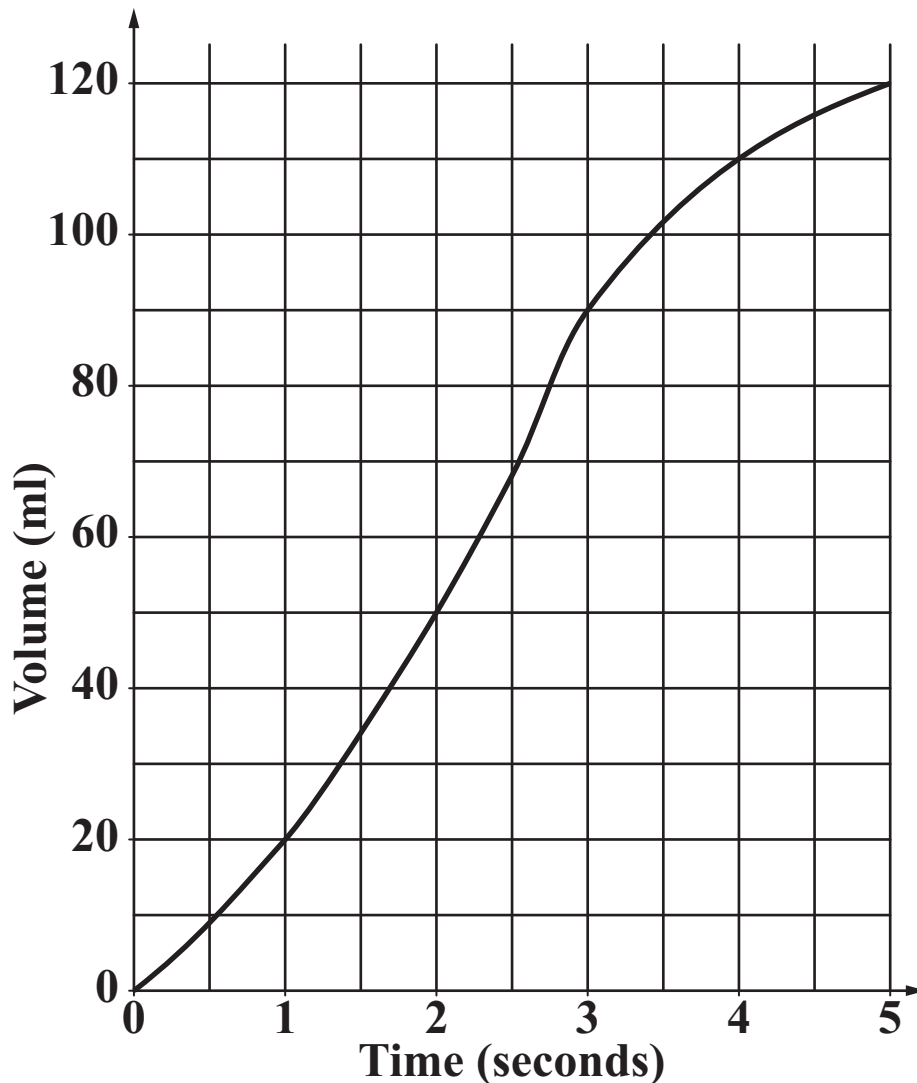
(a) Enlarge triangle A with scale factor 2 and centre  $(0, 0)$ .  
Label the image B.  
[2 marks]

(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?  
[1 mark]

(b) \_\_\_\_\_ cm

- 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?**  
[1 mark]

(a) \_\_\_\_\_ ml

- (b) **How long after Jamie started pouring was the glass half-full?**  
[1 mark]

(b) \_\_\_\_\_ seconds



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

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5 (a) Work out.

(i)  $6 - 2 \times 5$   
[1 mark]

(a)(i) \_\_\_\_\_

(ii)  $(4 + 2)^2$   
[1 mark]

(ii) \_\_\_\_\_

(b) Write  $\frac{7}{20}$  as a decimal.  
[2 marks]

(b) \_\_\_\_\_

**(c) Work out.**

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

**Give your answer as a fraction in its simplest form.  
[3 marks]**

**(c)** \_\_\_\_\_

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