

**GENERAL CERTIFICATE OF SECONDARY EDUCATION**  
**MATHEMATICS C (GRADUATED ASSESSMENT)**  
MODULE M4 – SECTION A

## B274A

Candidates answer on the question paper

**OCR Supplied Materials:**  
None

**Other Materials Required:**

- Geometrical instruments
- 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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### MODIFIED LANGUAGE


#### 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.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- 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.

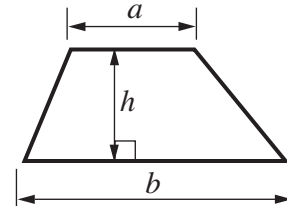
**WARNING**



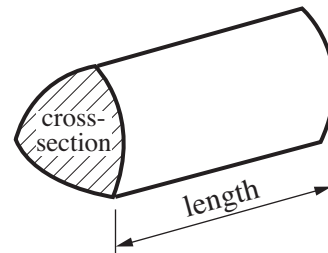
No calculator can be used for Section A of this paper

## Formulae Sheet

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



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



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1 (a) Work out.

(i)  $14.26 + 3.58$

(a)(i) .....[1]

(ii)  $1.32 \times 6$

(ii) .....[1]

(b) Here are some decimals.

0.405

0.45

0.54

0.054

0.504

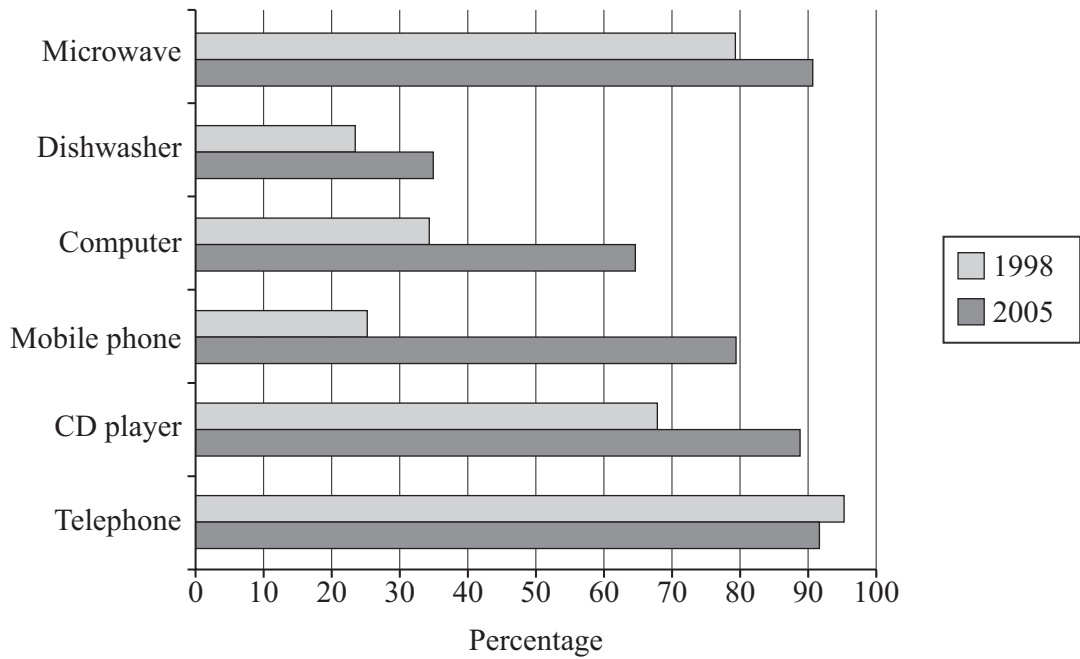
(i) Which is the largest of these decimals?

(b)(i) .....[1]

(ii) Which is the smallest of these decimals?

(ii) .....[1]

2 This graph shows the percentages of households which had certain items in 1998 and 2005.



(a) Use the graph to complete these sentences.

In 2005 less than 50% of households had a ..... [1]

The percentage of households with a ..... went down between 1998 and 2005. [1]

(b) The percentage of households with computers approximately doubled between 1998 and 2005.

Explain how the graph shows this.

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

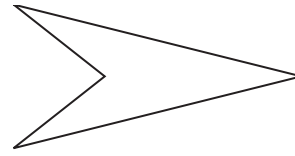
3 (a) Write the order of rotation symmetry under each of these quadrilaterals.



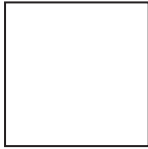
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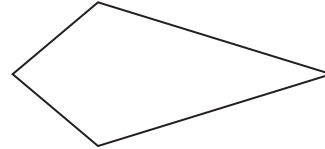
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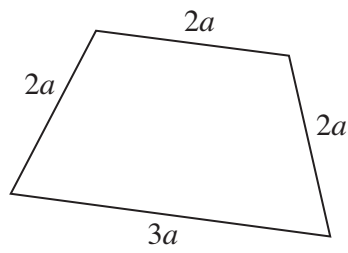
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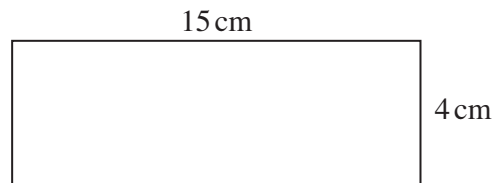
[3]

(b) Write a formula for the perimeter,  $P$ , of this quadrilateral.



(b) ..... [2]

(c) Work out the area of this rectangle.



Not to scale

(c) .....  $\text{cm}^2$  [2]

4 These patterns are made from sticks.

Pattern 1



Pattern 2



Pattern 3



(a) This table shows the number of sticks used in each pattern.

Complete the table.

Pattern	1	2	3	4	5
Number of sticks	5	9			

[2]

(b) Another pattern in the sequence is made from 33 sticks.

Which pattern is made from 33 sticks?

(b) Pattern ..... [1]

5 (a) Write down **two** common factors of 20 and 30.

(a) ..... and ..... [1]

(b) Write down one prime number that lies between 20 and 30.

(b) ..... [1]

(c) Ray says:

All multiples of 5 are odd.

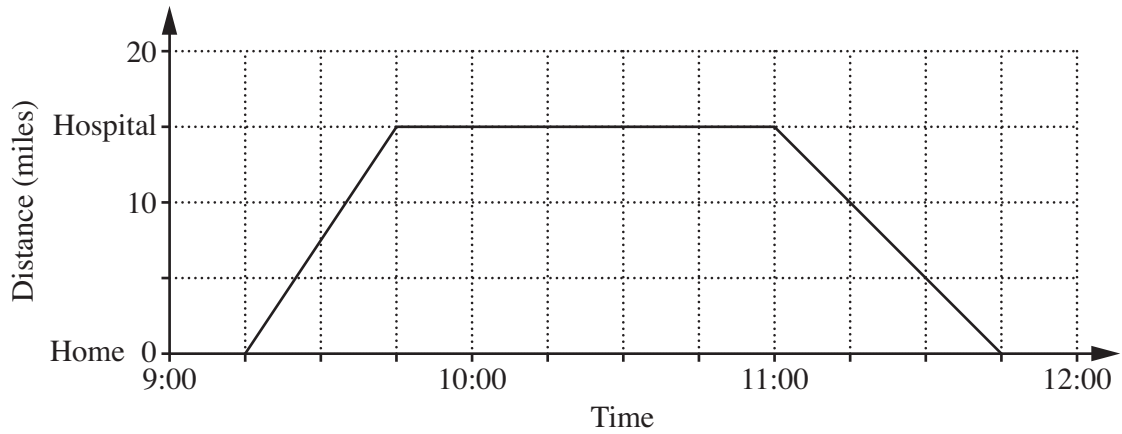
He is wrong.

Give an example to show that he is wrong.

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

**TURN OVER FOR QUESTION 6**

- 6 Ella drove from home to the hospital and back.  
The graph shows her journey.



- (a) (i) How far is the hospital from Ella's home?

(a)(i) ..... miles [1]

- (ii) Work out Ella's speed, in miles per hour, driving from home to the hospital.

(ii) ..... mph [2]

- (b) How long did Ella spend at the hospital?  
Give your answer in hours and minutes.

(b) ..... hour ..... minutes [1]

- (c) At what time did Ella arrive home?

(c) ..... [1]