

**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)

**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.

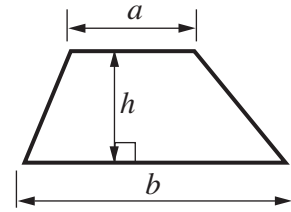
**WARNING**



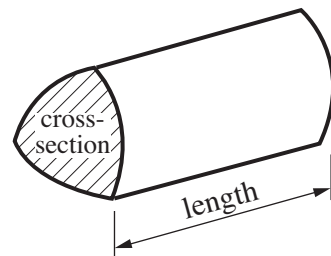
No calculator can be used for Section A of this paper

## Formulae Sheet

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

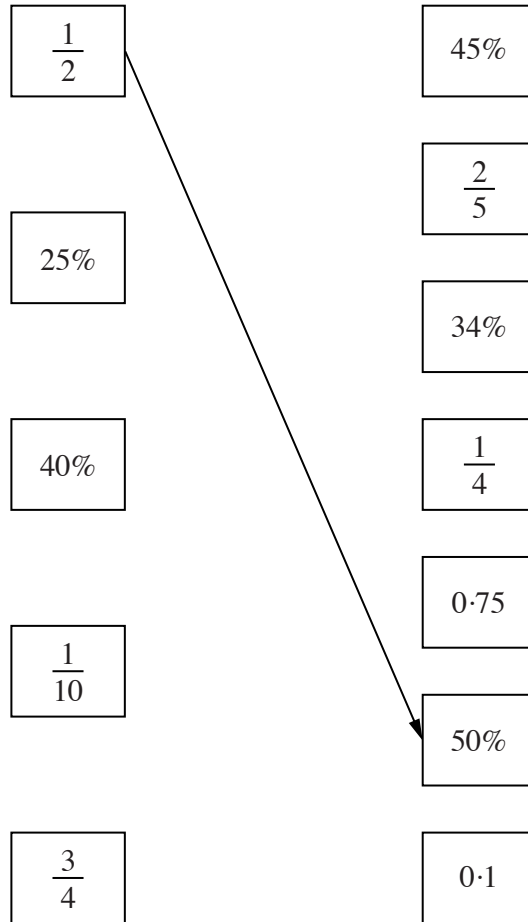


**Volume of prism** = (area of cross-section)  $\times$  length

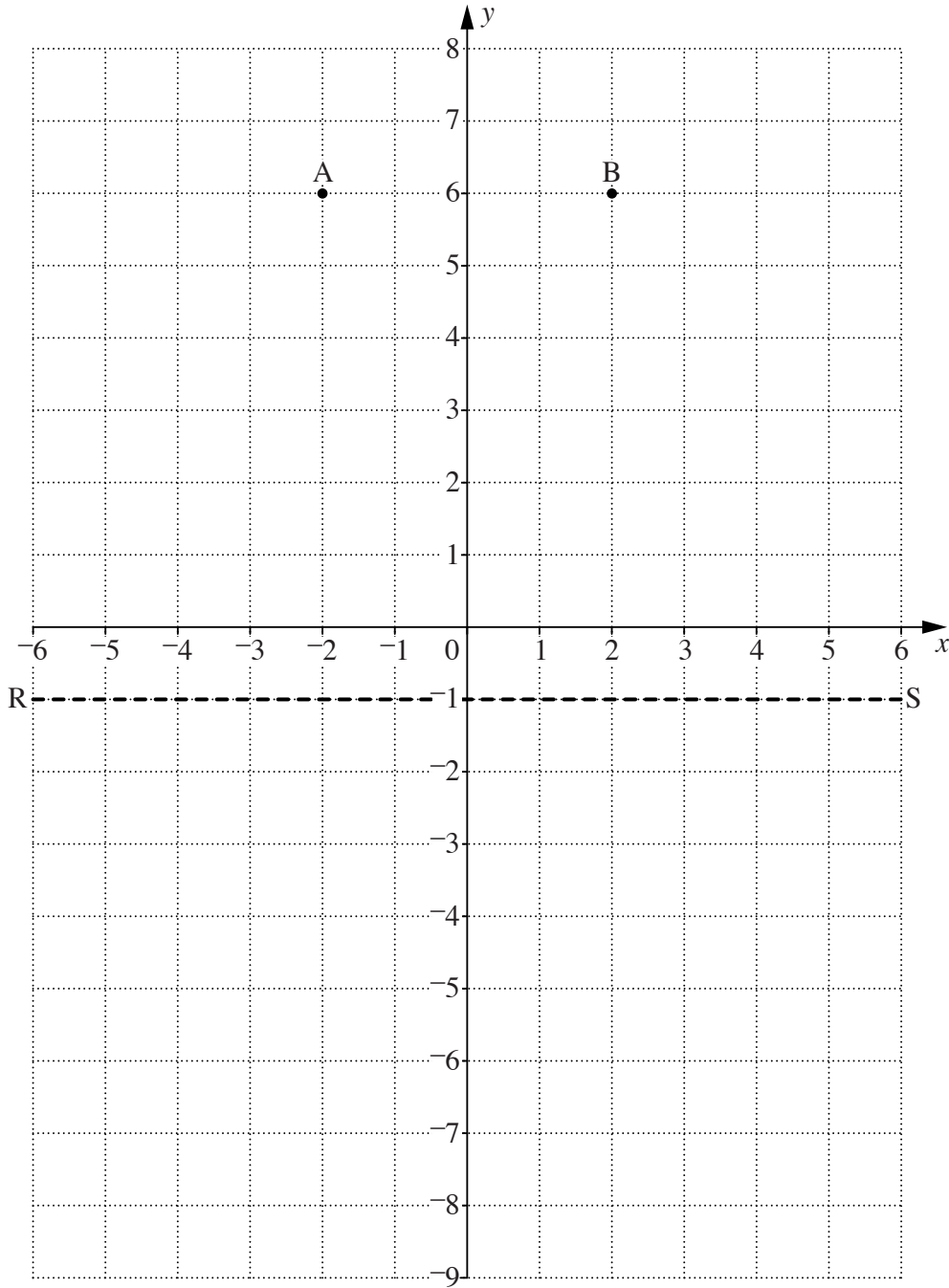


**PLEASE DO NOT WRITE ON THIS PAGE**

- 1 Link each value on the left to its equivalent value on the right.  
One has been done for you.



[3]



(a) Write down the coordinates of point A.

(a)(..... , .....) [1]

(b) (i) Plot point C at (-2, 3).

[1]

(ii) Join the points A, B and C to make a triangle.

What type of triangle is this?

(b)(ii) ..... [1]

(c) Reflect triangle ABC in the line RS.

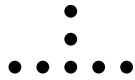
[1]

3 Here are some patterns made from dots.

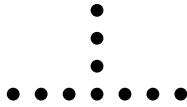
Pattern 1



Pattern 2



Pattern 3



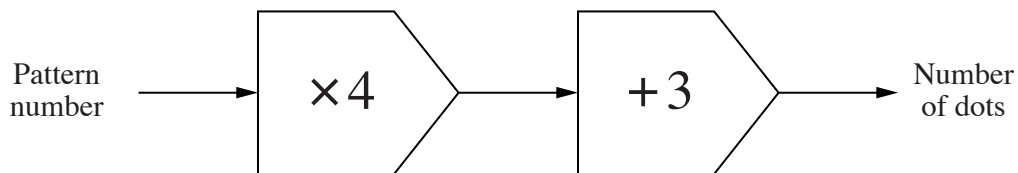
Pattern 4

- (a) (i) Draw Pattern 4. [1]
- (ii) How many dots are in Pattern 6?  
Explain how you worked out your answer.

..... dots because .....

..... [2]

(b) This function machine gives the rule for a different pattern.



Use the function machine to complete the table.

Pattern number	1	2	3	4
Number of dots	7			

[2]

- 4 Danny and Victoria buy 3 meals, each costing £14.50.  
They each work out the total cost.

Danny says the total cost is £43.50.  
Victoria says the total cost is £42.50.

Who has worked out the correct answer?  
Show how you decided.

..... [2]

- 5 Here is a list of numbers.

4    6    8    9    10    13    18    20    25

Complete the sentences, using numbers from the list.

(a) ..... is a factor of 63. [1]

(b) ..... is a prime number. [1]

- 6 (a) This table shows the cost of hiring a caravan at Easycamp.  
The price shown is the cost for one night.

Number of beds	Price per night (£)		
	Standard	Superior	Deluxe
2	86	99	105
4	126	135	143
6	145	154	162
8	167	172	185

The Howard family hires a Superior 4-bed caravan for 15 nights.

Work out the total cost of the caravan hire.  
You must show your working.

(a) £..... [4]

- (b) The campsite owner asked 200 families the following question.

**How do you travel to the beach?**

Their answers are recorded in this table.

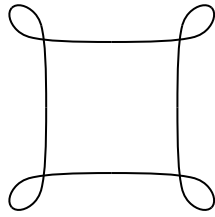
	Car	Walk	Cycle	Jog	Bus
Number of families	75	40	30	35	20

Use this information to find the probability that a family chosen at random walks to the beach.

(b) ..... [2]

**TURN OVER FOR QUESTION 7**

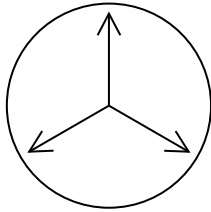
7 Write the order of rotation symmetry for each of the following diagrams.



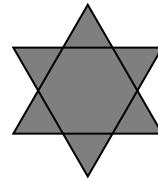
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[3]

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