

**Monday 16 January 2012 – Morning**

**GCSE MATHEMATICS C (GRADUATED ASSESSMENT)**

**B272B MODULE M2 – SECTION B**

Candidates answer on the Question Paper.

**OCR supplied materials:**  
None

**Other materials required:**

- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

**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, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure 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.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

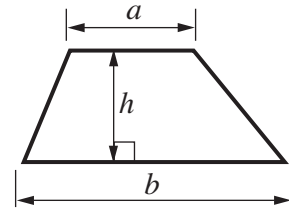
**INFORMATION FOR CANDIDATES**

- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 8.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

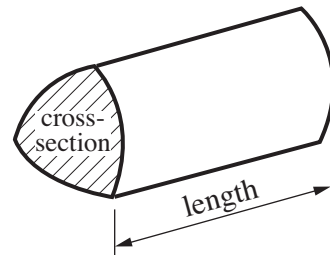
This paper has been pre modified for carrier language

## Formulae Sheet

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

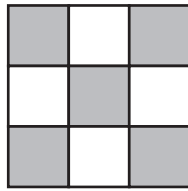


**Volume of prism** = (area of cross-section)  $\times$  length



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- 8 (a) What fraction of this shape is shaded?



(a) ..... [1]

- (b) Write  $\frac{1}{10}$  as a decimal.

(b) ..... [1]

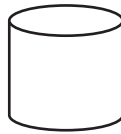
- (c) Write 0.3 as a fraction.

(c) ..... [1]

- (d) Work out 50% of 176.

(d) ..... [1]

9 (a) Write down the name of this solid.



(a) ..... [1]

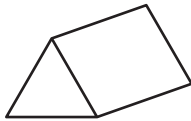
(b) Ciaran is describing a solid.

**It has 6 faces and 8 vertices.  
All of the faces are rectangles.**

Write down the name of the solid.

(b) ..... [1]

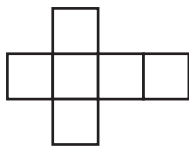
(c) Complete this description of a triangular prism.



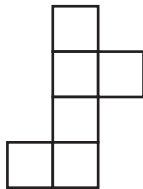
**A triangular prism has ..... faces and ..... vertices.  
Its faces are rectangles and triangles.** [1]

(d) Here are some nets of cubes.

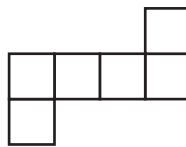
Write **yes** under each net that has reflection symmetry.  
Write **no** under each net that does not have reflection symmetry.



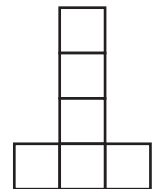
.....



.....



.....



..... [2]

10 This table shows information about some of the first satellites launched.

Name	Country	Launch date	Mass
Sputnik 1	USSR	4 October 1957	83.6 kg
Sputnik 2	USSR	3 November 1957	508.3 kg
Explorer 1	USA	31 January 1958	13.97 kg
Vanguard 1	USA	17 March 1958	1.47 kg
Explorer 3			

(a) Use this information to complete the last row of the table.

On 26 March 1958, the USA launched the satellite Explorer 3.  
Its mass was 14.1 kg.

[1]

(b) Which satellite was launched on 31 January 1958?

(b) ..... [1]

(c) Which of these satellites had the greatest mass?

(c) ..... [1]

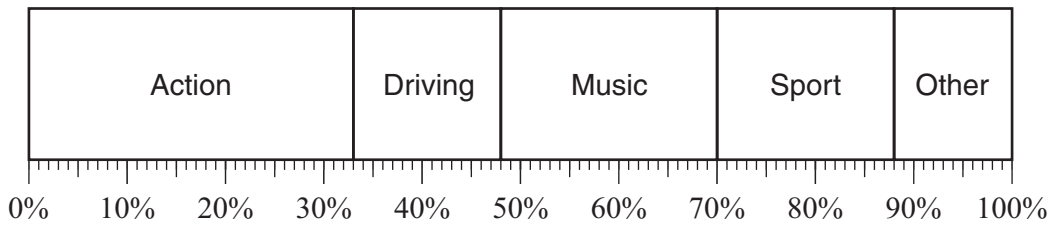
(d) The mass of Vanguard 1 was 1.47 kg.

Convert 1.47 kg to grams.

(d) ..... g [1]

11 Maya did a survey about games consoles.

- (a) She asked people what type of game they preferred to play. This percentage bar summarises her results.



- (i) What percentage of people said Action?

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

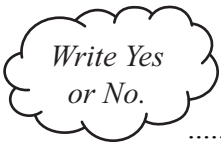
- (ii) What percentage of people said Sport?

(ii) .....% [1]

- (iii) Maya said:

**One quarter of the people preferred Music games.**

Is she correct?  
Give a reason for your answer.



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

- (b) Maya asked ten people how many hours they had spent playing on a games console last weekend.

Here are her results.

8 4 1 2 6 9 6 2 0 2

- (i) Find the median time.

(b)(i) ..... hours [2]

- (ii) Find the mode.

(ii) ..... hours [1]

12 (a) Dave is organising a camping trip.  
There are 21 people going on the trip.

(i) A maximum of 4 people can sleep in each tent.

Explain why 5 tents are not enough for 21 people.

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

(ii) Dave uses this rule to work out how many tins of beans he needs to buy.

$$\text{Number of people} \div 3$$

How many tins of beans does he need to buy?

(a)(ii) ..... [1]

(iii) Dave uses this rule to work out how many eggs he needs to buy.

$$\text{Number of people} \times 2 + 4$$

Eggs are sold in boxes of 12.

How many boxes of eggs does Dave need to buy?

(iii) ..... [3]

(b) Dave is 1.8m tall.



Estimate the height, in metres, of Dave's tent.

(b) ..... m [1]

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