



**M3**

**GENERAL CERTIFICATE OF SECONDARY EDUCATION  
MATHEMATICS C (GRADUATED ASSESSMENT)  
MODULE M3 – SECTION A**

**B273A**



Candidates answer on the question paper.

**OCR supplied materials:**  
None

**Other materials required:**

- Geometrical instruments
- Tracing paper (optional)

**Thursday 20 January 2011  
Morning**

**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. Pencil may be used for graphs and diagrams only.
- 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).
- Answer **all** the questions.
- Do **not** write in the bar codes.

**INFORMATION FOR CANDIDATES**

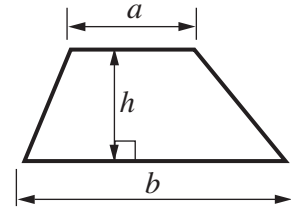
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

**WARNING**

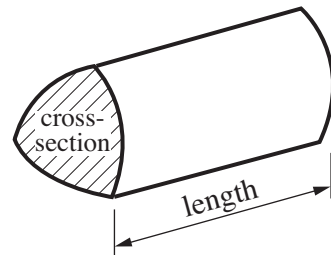
**No calculator can be used for Section A of this paper**

## 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 Work out.

(a)  $1.6 \times 100 = \dots\dots\dots$  [1]

(b)  $1478 \div 10 = \dots\dots\dots$  [1]

(c)  $128.7 \div 3 = \dots\dots\dots$  [1]

(d) Tom works out this sum.

$$\begin{array}{r} 4.7 \\ \times 4 \\ \hline 16.28 \end{array}$$

Tom's answer is wrong.

Explain his error.

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

- 2 (a) A cruise ship has 800 cabins.  
 15% of the cabins have balconies.  
 $\frac{1}{4}$  of the **cabins with balconies** are for 4 people.  
 How many cabins have a balcony **and** are for 4 people?

(a) ..... [3]

- (b) The ship docked at 7 am.  
 It sailed ten and a half hours later.  
 At what time did the ship sail?

(b) ..... [1]

- (c) In a room on the ship there are:
- 7 blue chairs,
  - 3 red chairs,
  - 6 green chairs.

Alison enters the room and sits on a chair at random.

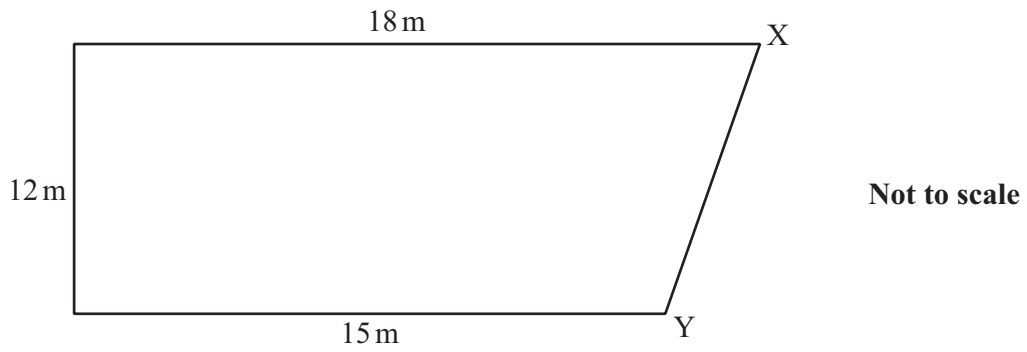
What is the probability that Alison sits on a blue chair?

(c) ..... [2]

- (d) A waiter on the ship opens a bottle containing 1 litre of water.  
 He pours 300 ml of water into a glass.  
 How much water is left in the bottle?  
 Give the units of your answer.

(d) ..... [3]

(e) This is a sketch of the ship's dining room.



(i) Make a scale drawing of the dining room.  
Use a scale of **1 cm to 2 m**.



[2]

(ii) Use your scale drawing to find the real length of the line XY.

(e)(ii) ..... m [2]

3 Solve.

(a)  $4 + x = 22$

(a).....[1]

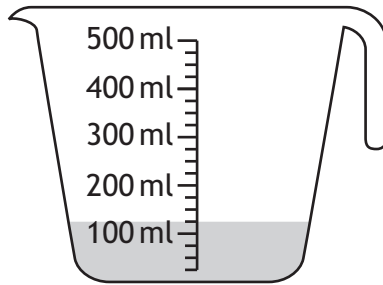
(b)  $x - 7 = 19$

(b).....[1]

(c)  $x \div 3 = 2$

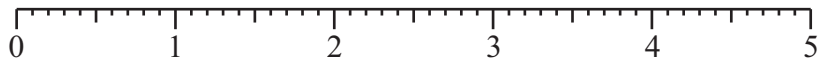
(c).....[1]

4 (a) What measurement does this scale show?



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

(b) Draw an arrow on the number line at 2.7.



[1]

**TURN OVER FOR QUESTION 5**

5 Work out.

(a)  $(3 + 9) \times (6 - 1)$

(a)..... [2]

(b) Here is a sum that Elle has done wrong.

$$\begin{aligned} & 6 + 5 \times 3 - 2 \\ = & 11 \times 3 - 2 \\ = & 33 - 2 \\ = & 31 \end{aligned}$$

Put a ring around Elle's mistake.  
Explain what she did wrong.

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

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