

**GENERAL CERTIFICATE OF SECONDARY EDUCATION**  
**MATHEMATICS C (GRADUATED ASSESSMENT)**  
MODULE M6 – SECTION B

**B276B**

Candidates answer on the Question Paper

**OCR Supplied Materials:**  
None

- Other Materials Required:**
- Geometrical instruments
  - Tracing paper (optional)
  - Scientific or graphical calculator

**Monday 8 March 2010**  
**Morning**

**Duration: 30 minutes**



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**INSTRUCTIONS TO CANDIDATES**

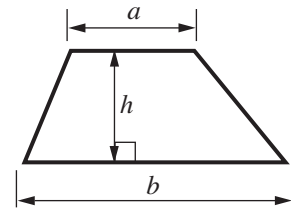
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working.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

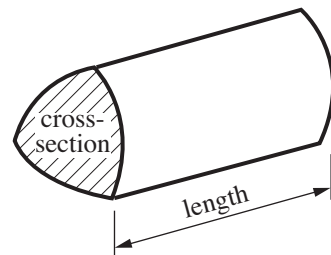
- The number of marks is given in brackets [ ] at the end of each question or part question.
- Section B starts with question 8.
- You are expected to use a calculator in Section B of this paper.
- Use the  $\pi$  button on your calculator or take  $\pi$  to be 3.142 unless the question says otherwise.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

## Formulae Sheet

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

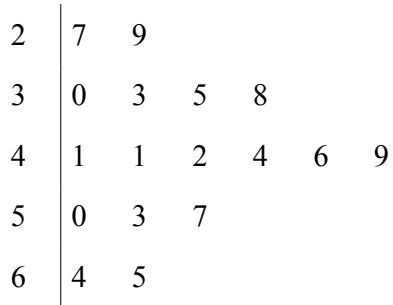


**Volume of prism** = (area of cross-section)  $\times$  length



**PLEASE DO NOT WRITE ON THIS PAGE**

- 8 This stem and leaf diagram shows the lengths of time, in seconds, taken by a group of students to complete a puzzle.



Key: 4|1 represents 41 seconds

- (a) How many students were in the group?

(a) ..... [1]

- (b) What was the longest time taken to complete the puzzle?

(b) ..... seconds [1]

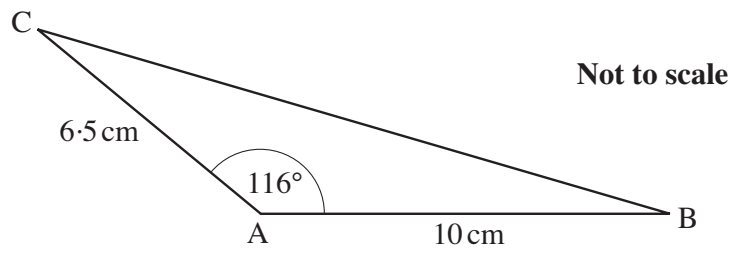
- (c) How many students took less than 40 seconds to complete the puzzle?

(c) ..... [1]

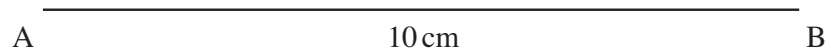
- (d) What was the median time?

(d) ..... seconds [1]

- 9 This is a sketch of triangle ABC.



- (a) Draw accurately triangle ABC.  
The side AB has been drawn for you.



[2]

- (b) Find the perimeter of triangle ABC.

(b) ..... cm [2]

10 Calculate.

$$\frac{4 \cdot 2^2}{5 \cdot 1 - 3 \cdot 8}$$

Give your answer correct to 2 decimal places.

..... [2]

11 (a) Solve.

$$4(p + 3) = 22$$

(a) ..... [3]

(b) Expand.

$$r(r - 2)$$

(b) ..... [1]

(c) Factorise.

$$5q + 10$$

(c) ..... [1]

- 12 (a) A box contains milk chocolates and dark chocolates.  
There are 24 milk chocolates and 16 dark chocolates.

Work out the ratio of milk chocolates to dark chocolates.  
Give your answer in its simplest form.

(a) ..... : ..... [2]

- (b) Another box contains milk and dark chocolates with hard or soft centres.

Martine takes a chocolate at random from the box.  
The table shows the probability of taking each type of chocolate.

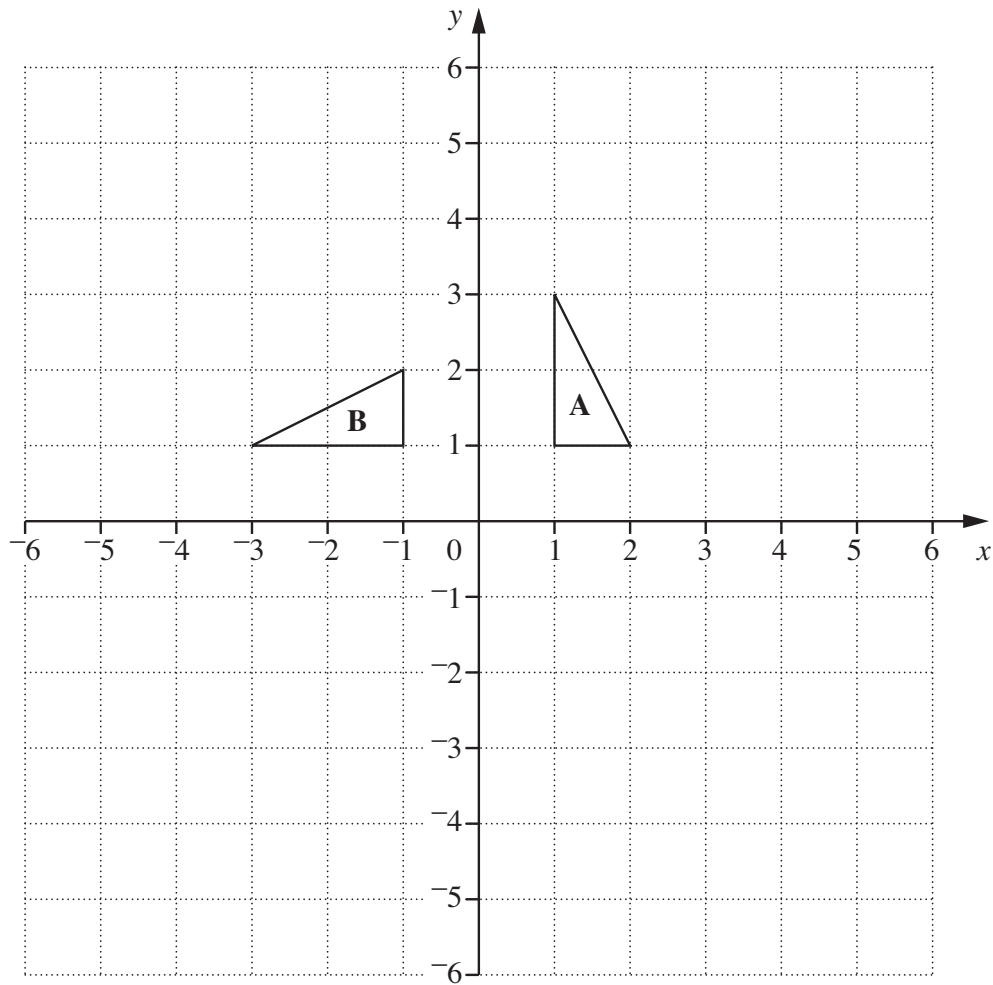
	Milk	Dark
Hard	0.3	0.1
Soft	0.25	.....

Complete the table.

[2]

- 13 Calculate the area of a circle of radius 12 cm.  
Give the units of your answer.

..... [3]



- (a) Translate triangle A by  $\begin{pmatrix} 3 \\ 2 \end{pmatrix}$ .

Label the image C.

[2]

- (b) Daniel has been asked to describe fully the transformation that maps triangle A onto triangle B.

He says:

It is a rotation of  $90^\circ$  about the origin.

Explain what is missing from his description.

..... [1]

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