

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M5 – SECTION A

B275A

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)
- Pie chart scale (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 **12** pages. Any blank pages are indicated.

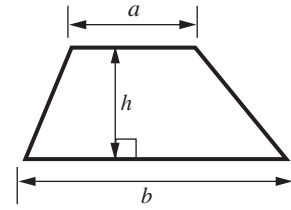
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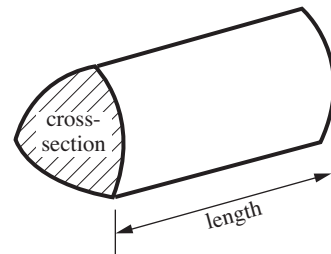
No calculator can be used for Section A of this paper

Formulae Sheet

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



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



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1 Work out.

(a) 8^2

(a) [1]

(b) 2^3

(b) [1]

2 (a) Write $\frac{6}{5}$ as a mixed number.

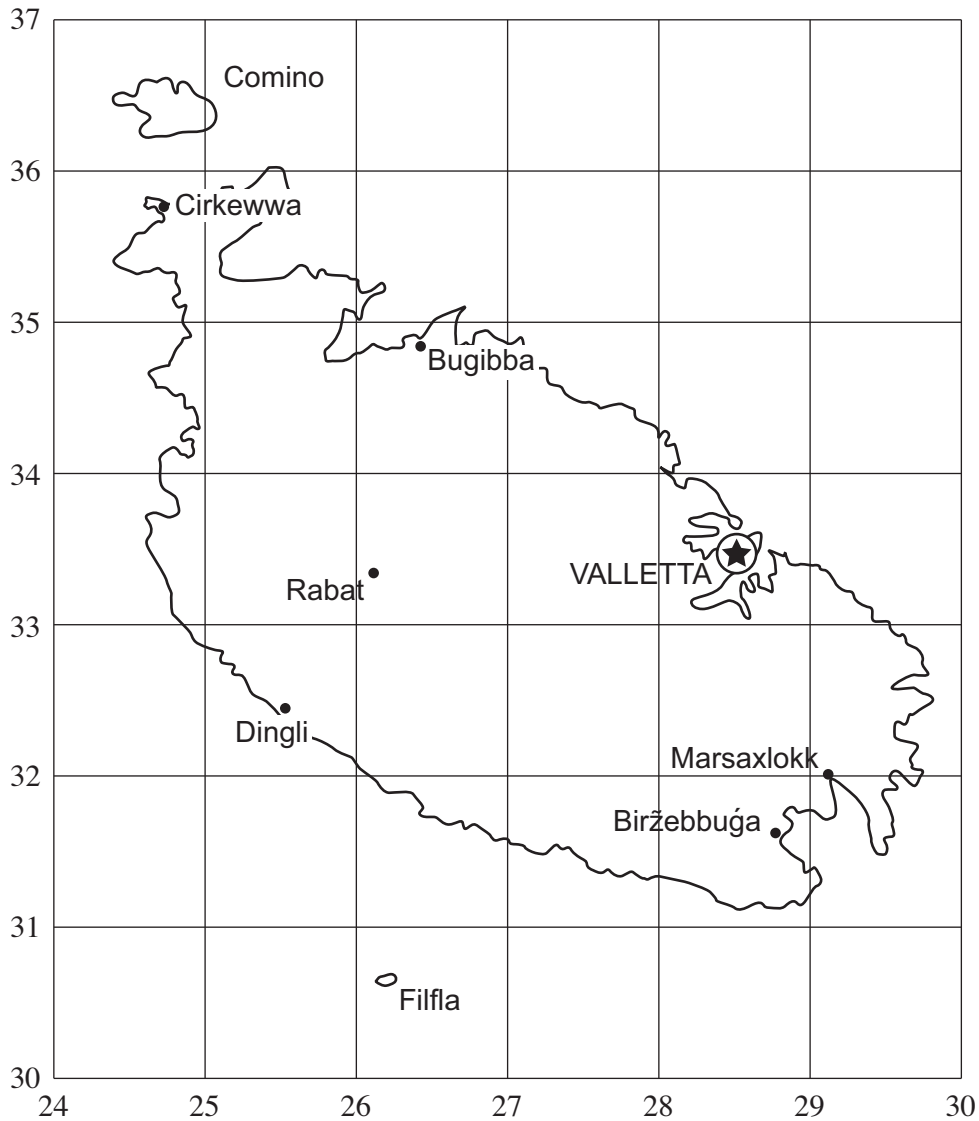
(b) Work out.

$$\frac{3}{4} \times \frac{1}{5}$$

(a) [1]

(b) [1]

- 3 (a) This is a map of Malta.
It is drawn to a scale of 1 cm to 2 km.



Scale: 1 cm to 2 km

- (i) What is the name of the town in square 2532?

(a)(i) [1]

- (ii) In which square is the island of Filfla?

(ii) [1]

- (iii) What is the **real** direct distance from Valletta to Rabat?

(iii) km [2]

(b) The population of Malta is 401 880.

Write 401 880 to the nearest thousand.

(b) [1]

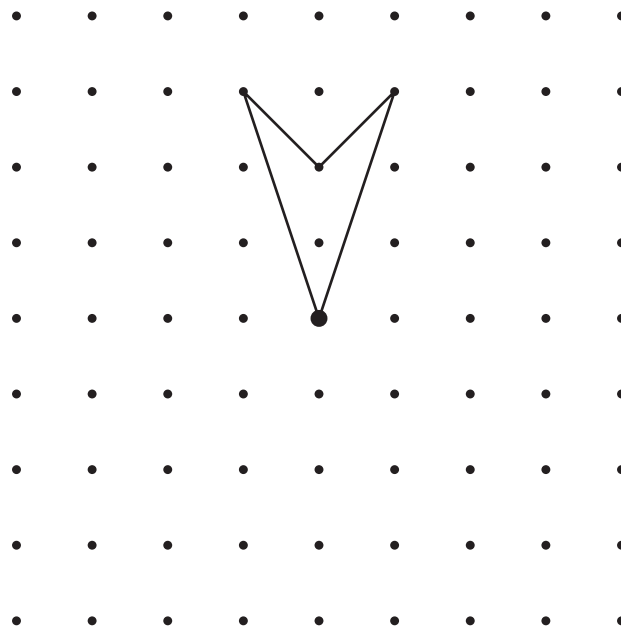
(c) Malta has 196·8 km of coastline.

Write 196·8 to one significant figure.

(c) [1]

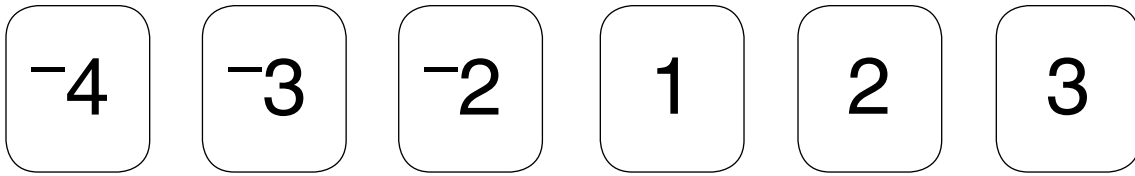
(d) A Maltese cross has rotation symmetry of order 4 about its centre (●).

Complete this diagram to show a Maltese cross.



[2]

4 Here are some number cards.



(a) Use some of the cards to complete these calculations.

$$\boxed{-4} - \boxed{} = -6$$

$$\boxed{} + \boxed{} = 1$$

[2]

(b) Philip wants to make the highest possible answer to a multiplication using two of these cards.

Complete the calculation to give the highest possible answer.

$$\boxed{} \times \boxed{} = \dots\dots\dots$$

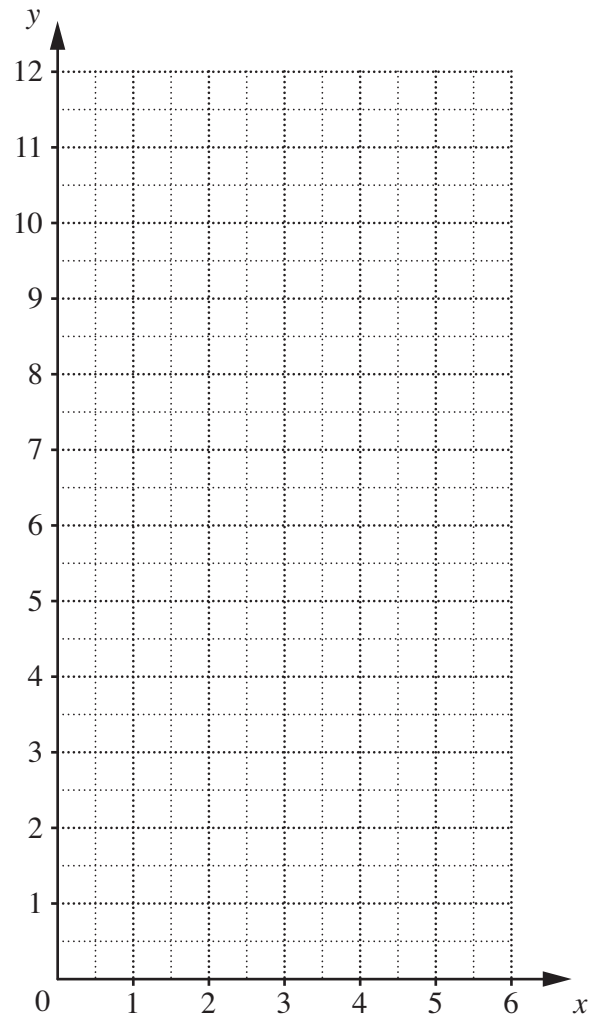
[2]

- 5 (a) Complete this table for $y = 9 - 2x$.

x	0	2	4
y	9		

[1]

- (b) Draw the graph of $y = 9 - 2x$.



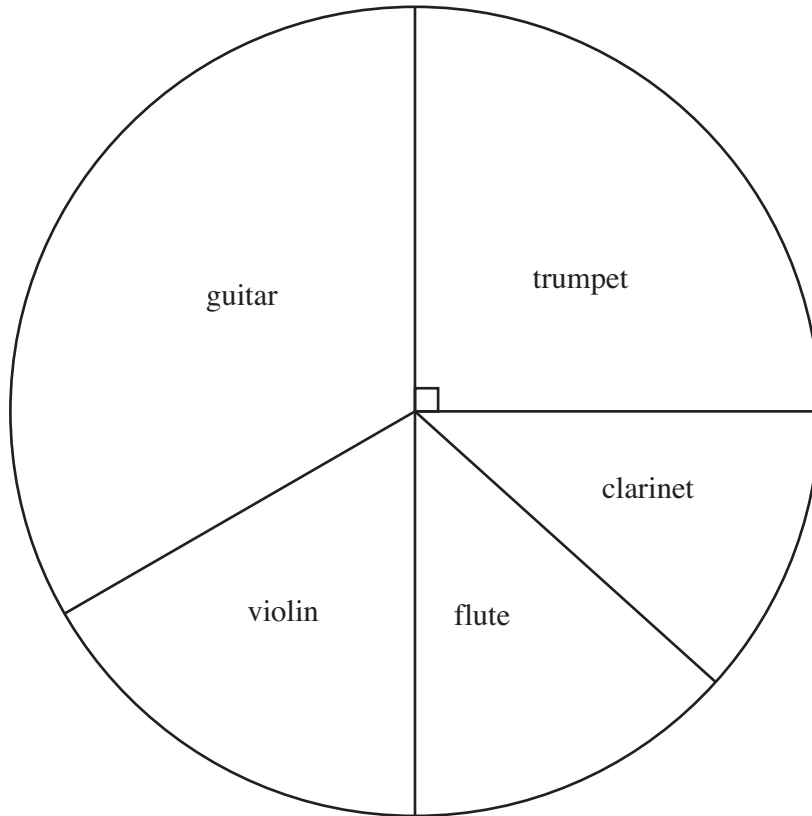
[2]

- (c) Use your graph to find the value of x when $y = 6$.

(c) [1]

6 Ciara asked each of a group of musicians which instrument they play best.

(a) This pie chart represents her results.



(i) Which instrument was the most common answer?

(a)(i) [1]

(ii) 15 of the group play the trumpet best.

How many people did Ciara ask altogether?

(ii) [2]

(b) Ciara states:

People who play wind instruments can hold their breath for longer than people who play string instruments.

Ciara tests the group of musicians to find the length of time they can hold their breath. The table summarises her results.

	Length of time (seconds) people held their breath		
	Mean	Median	Range
Wind players	46	47	28
String players	41	43	31

(i) Is Ciara’s statement true?
Explain how you can tell from the information in the table.

..... because

..... [1]

(ii) For which set of players are the times more spread out?
Explain how you know.



..... because

..... [1]

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