

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M1 (SECTION A)

B271A

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)

Monday 21 June 2010
Afternoon

Duration: 30 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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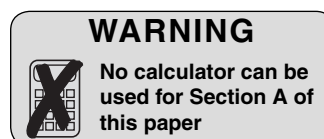
MODIFIED LANGUAGE

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. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

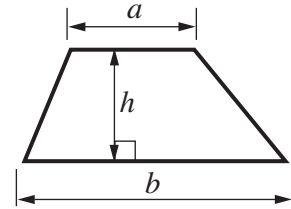
INFORMATION FOR CANDIDATES

- 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.

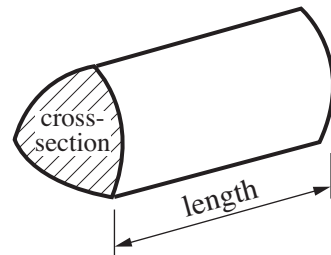


Formulae Sheet

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



$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



PLEASE DO NOT WRITE ON THIS PAGE

- 1 (a) Here are the lengths of some supertankers.

Supertanker name	Length (m)
Adna	325
Soro	332
Tokio	333
Torm Venture	229
Ural	330
Victoria	326
Yoho	337



- (i) Which is the longest of these supertankers?

(a)(i) [1]

- (ii) Which supertanker is 4 m longer than the *Victoria*?

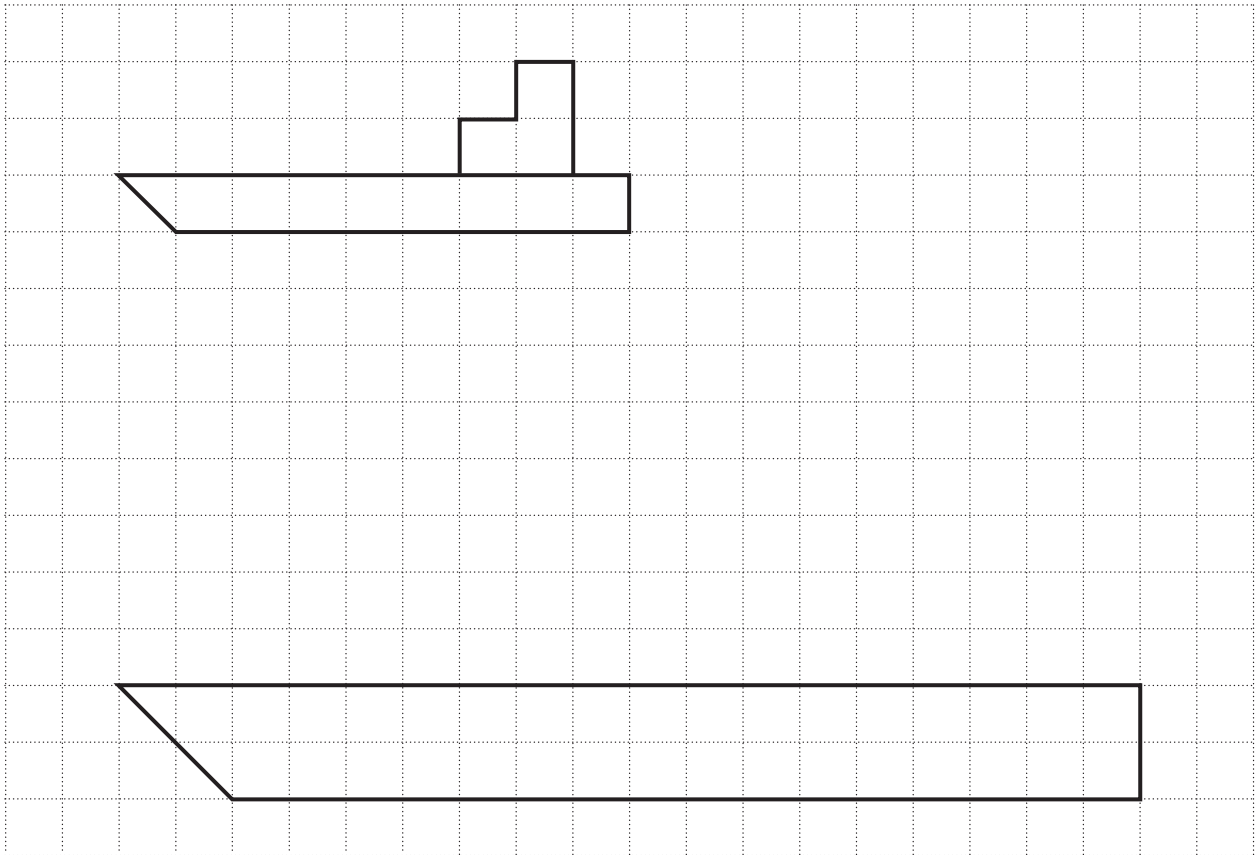
(ii) [1]

- (b) Another supertanker, the *Knock Nevis*, is 1504 feet long.

Write 1504 in words.

..... [1]

- (c) Complete the enlargement of the tanker logo below.
The scale factor is 2.



[3]

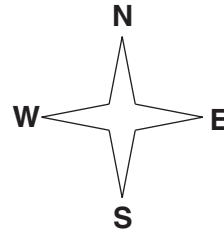
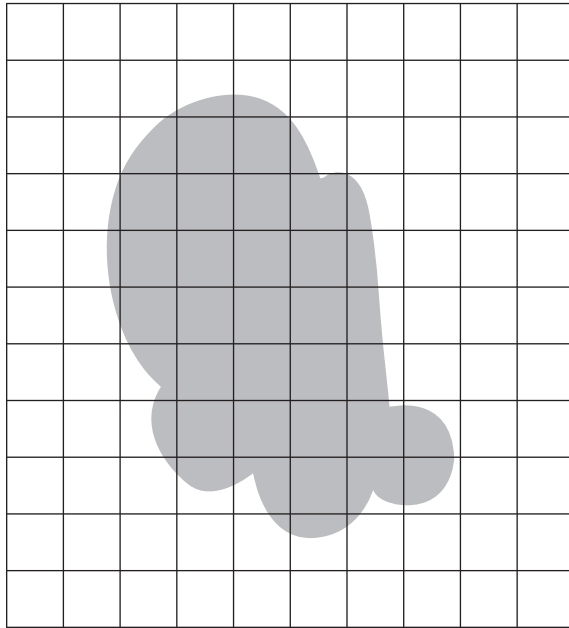
- (d) Sometimes oil spills from supertankers, making an oil slick. Some oil slicks are over 2 cm thick.

What is 2 cm in mm?



(d) mm [1]

- (e) Here is a satellite image of a large oil slick.
The slick is the shaded region.



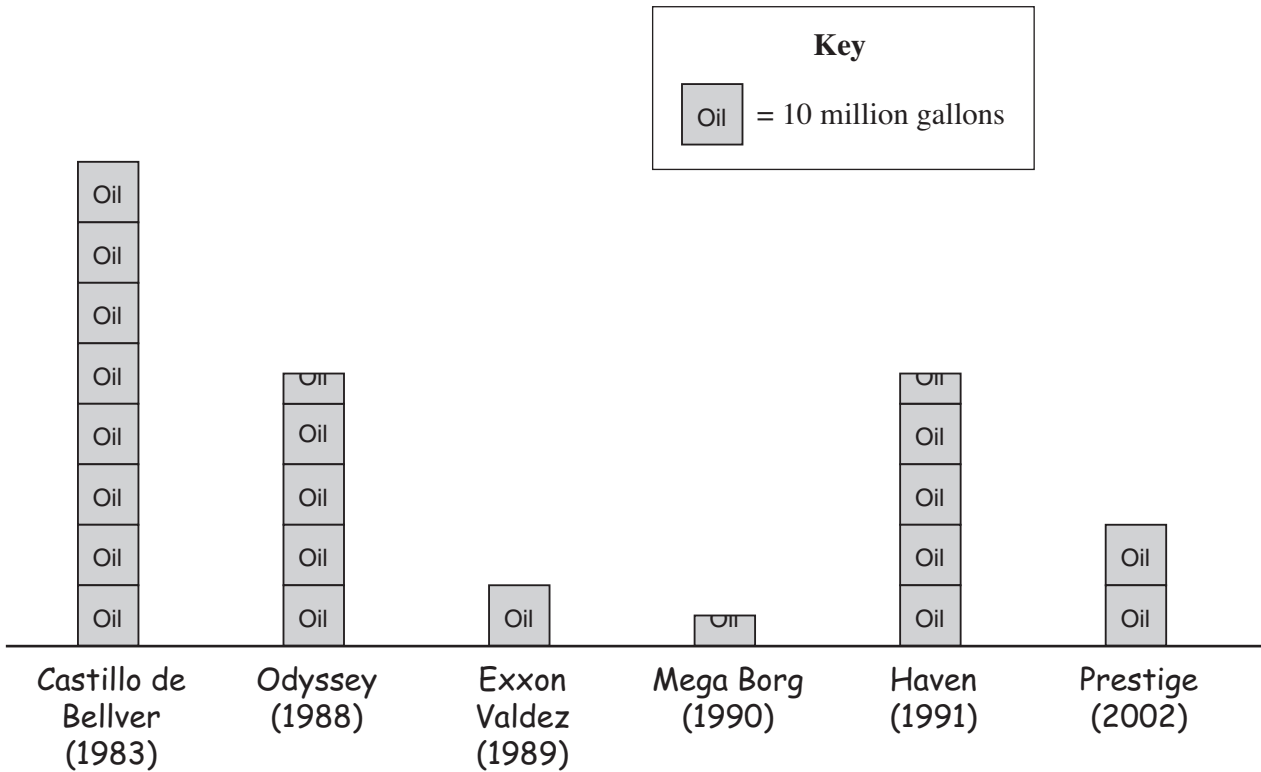
- (i) Each square has an area of one square kilometre.
Estimate the area of the oil slick.

(e)(i)square kilometres [2]

- (ii) The wind is blowing the slick towards the South East.
Draw an arrow on the grid to show this direction.

[1]

- (f) This pictogram shows information about some of the worst oil spills and the names of the supertankers.



Use the pictogram to complete these sentences with the correct numbers.

The biggest spill was million gallons of oil in 1983.

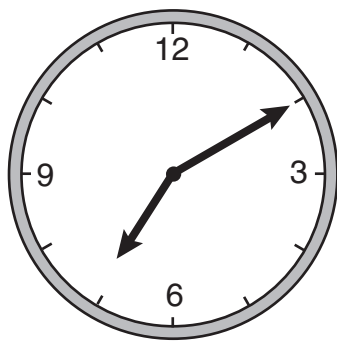
In 1990 the Mega Borg spilled million gallons of oil.

[2]

- (g) Amy wants to listen to a radio programme about the Torrey Canyon. This was the first really bad supertanker oil spill.

Time	Programme
7:00	National News
7:20	Local News
7:35	The Torrey Canyon Disaster 1967
8:05	Uptown Girls
9:00	Eat till you burst

Here is the time on Amy's clock.



- (i) How long is it before the programme about the Torrey Canyon begins?

(g)(i)minutes [1]

- (ii) How long does the programme about the Torrey Canyon last?

(ii)minutes [1]

2 Find the missing numbers.

(a) $3 + ? = 7$

(a) [1]

(b) $2 \times ? = 10$

(b) [1]

(c) $? - 2 = 6$

(c) [1]

3 (a) Find an even number greater than 10 that 5 divides into exactly.

(a) [1]

(b) Find an odd number greater than 7 that 5 divides into exactly.

(b) [1]

4 Work out.

(a) 7×4

(a) [1]

(b) $40 \div 8$

(b) [1]

(c) $\frac{1}{2}$ of £12

(c) £ [1]

TURN OVER FOR QUESTION 5

- 5 In a TV game people pick a box.
They do not know what is in the box.
They win what is in the box.

One box has already been opened.
Here are the prizes that are left.

£10 000

£5000

£1000

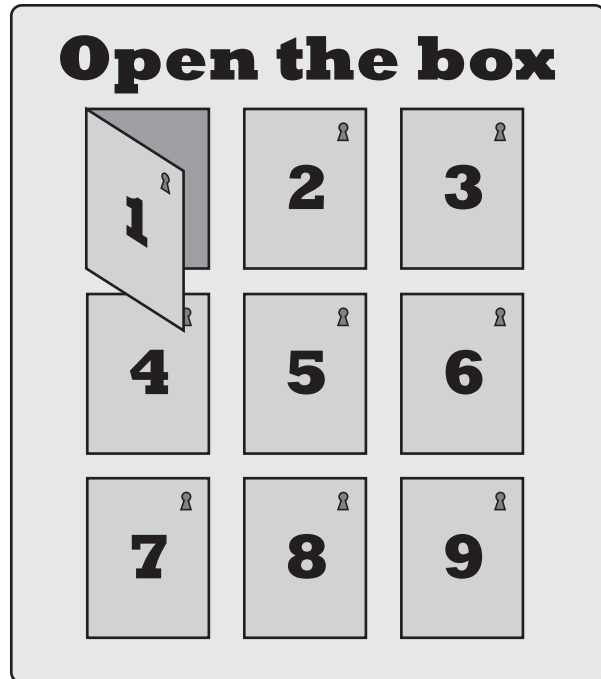
£100

A bar of soap

An empty can

A used bus ticket

A banana skin



Santos picks one of the eight closed boxes.

Choose the best word from the list below to complete each of the sentences.

certain	likely	evens
unlikely	impossible	

- (a) It is that Santos picks a money prize. [1]
- (b) It is that Santos picks the £10 000 prize. [1]
- (c) It is that Santos picks a prize of a holiday to China. [1]

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