

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B271A

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M1 – SECTION A

MONDAY 21 JUNE 2010: Afternoon

DURATION: 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Tracing paper (optional)

WARNING

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

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

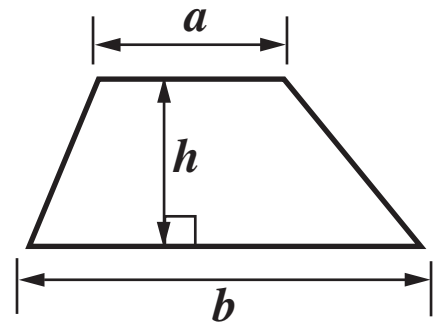
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Answer ALL the questions.**
- **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

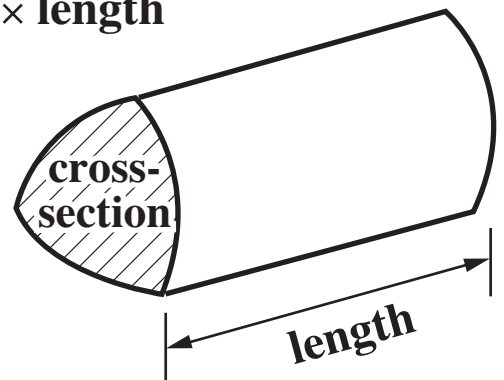
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

FORMULAE SHEET

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



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



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?
[1 mark]**

(a)(i) _____

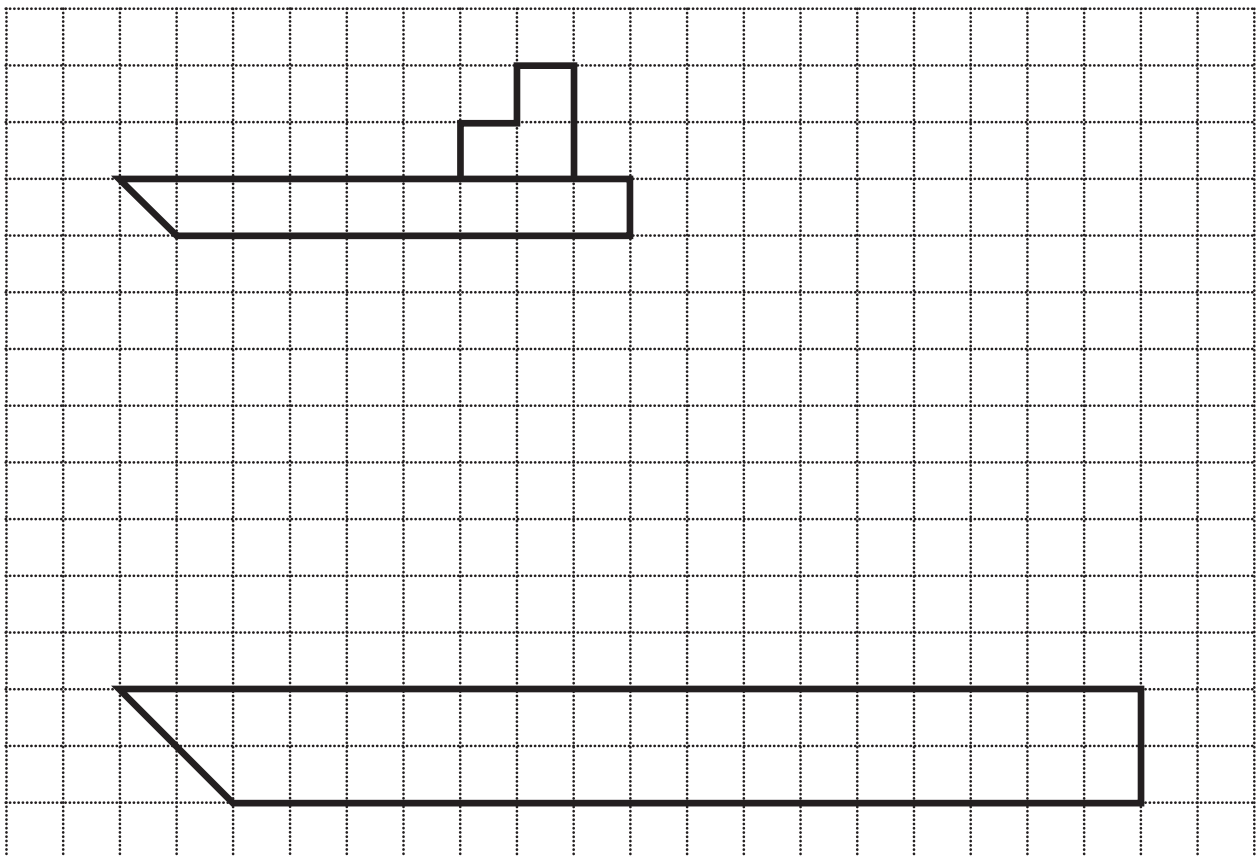
**(ii) Which supertanker is 4 m longer than the
Victoria?
[1 mark]**

(ii) _____

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

Write **1504** in words.
[1 mark]

(c) Complete the enlargement of the tanker logo below.
The scale factor is **2**.
[3 marks]

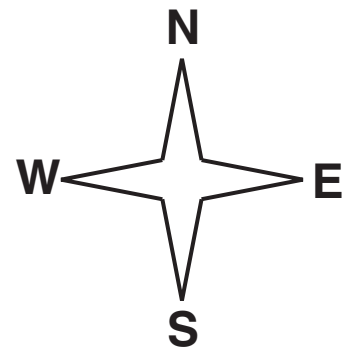
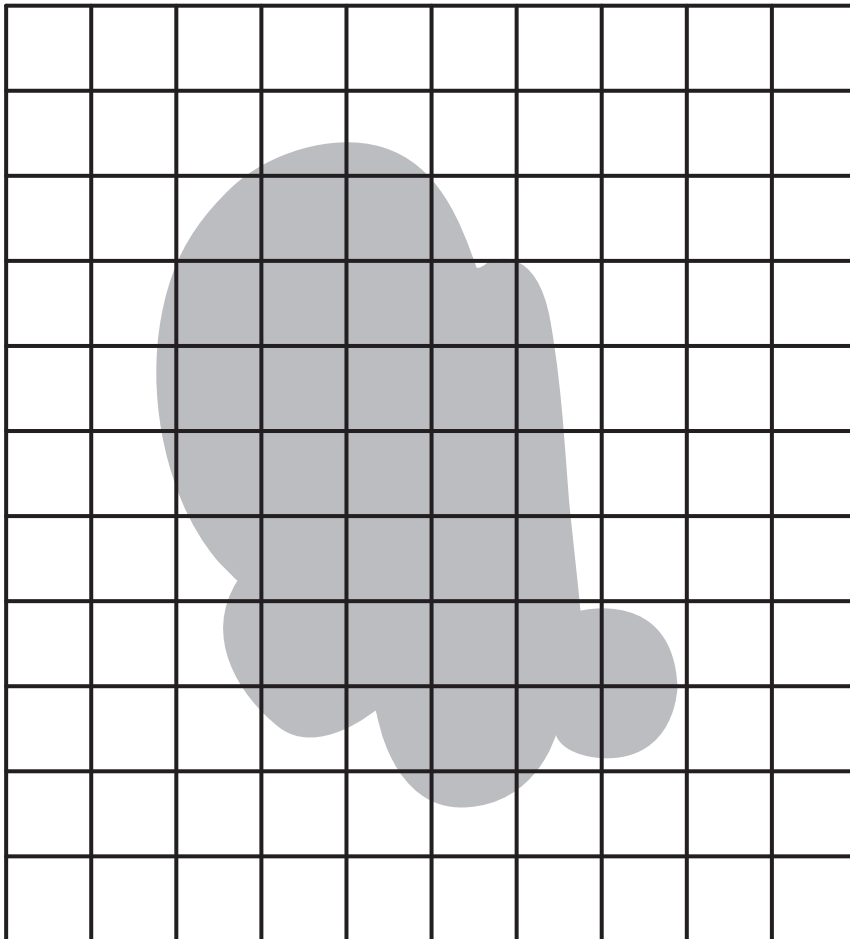


- (d) Sometimes oil spills from supertankers, making an oil slick.
Some oil slicks are over 2 cm thick.

What is 2 cm in mm?
[1 mark]

(d) _____ mm

- (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.

[2 marks]

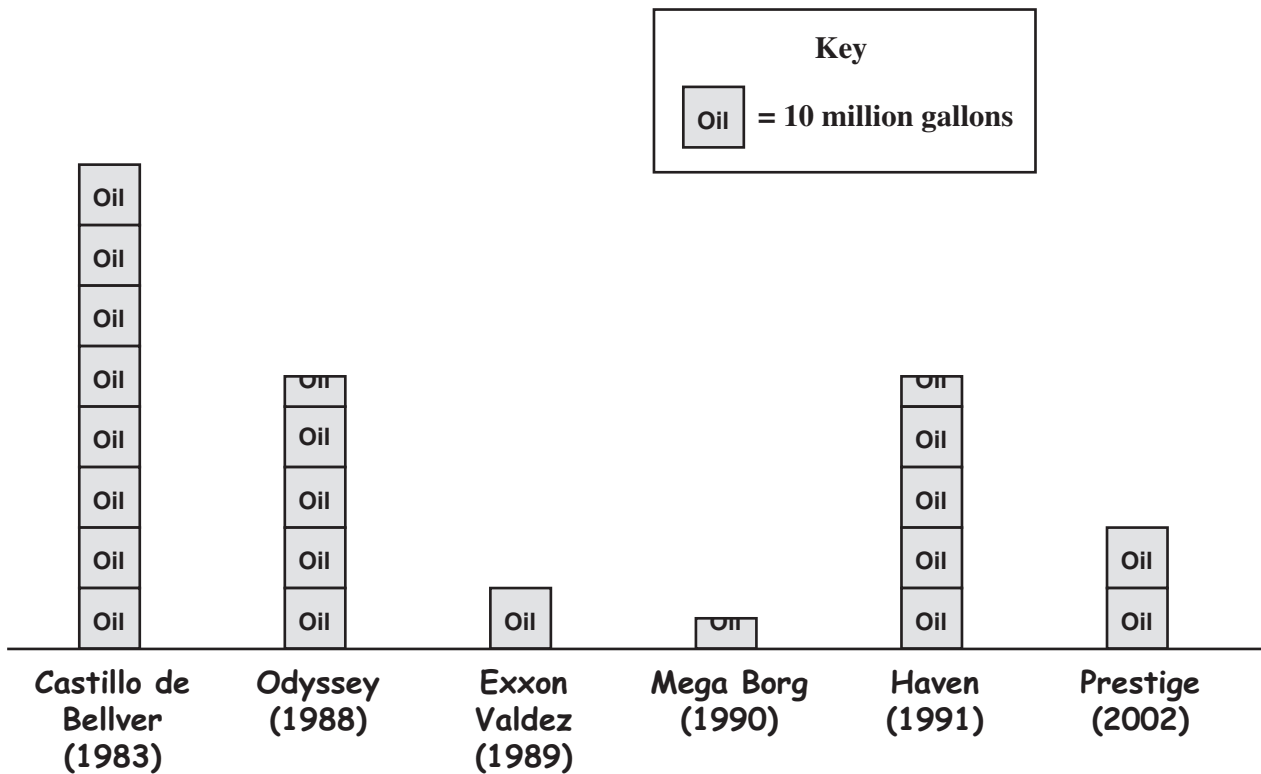
(e)(i) _____ square kilometres

- (ii) The wind is blowing the slick towards the South East.**

Draw an arrow on the grid to show this direction.

[1 mark]

(f) This pictogram shows information about some of the worst oil spills.



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

[2 marks]

The biggest spill was _____ million gallons of oil in 1983.

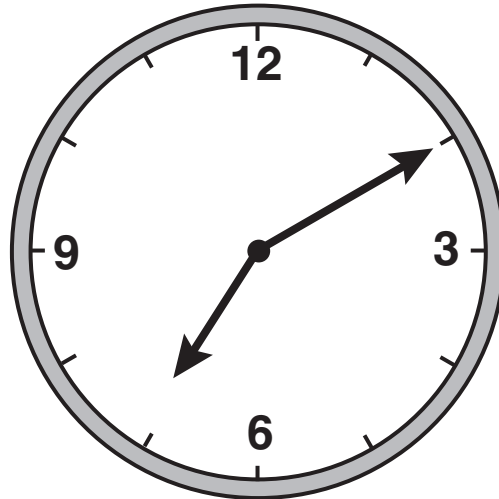
In 1990 the Mega Borg spilled _____ million gallons of oil.

(g) Amy wants to listen to a radio programme about the Torrey Canyon.

This was the first really bad supertanker oil spill.

‘The Torrey Canyon Disaster 1967’ programme starts at 7:35. The next programme starts at 8:05.

Here is the time on Amy’s clock.



**(i) How long is it before the programme about the Torrey Canyon begins?
[1 mark]**

(g)(i) _____ minutes

**(ii) How long does the programme about the Torrey Canyon last?
[1 mark]**

(ii) _____ minutes

2 Find the missing numbers.

**(a) $3 + ? = 7$
[1 mark]**

(a) _____

**(b) $2 \times ? = 10$
[1 mark]**

(b) _____

**(c) $? - 2 = 6$
[1 mark]**

(c) _____

- 3 (a) Find an even number greater than 10 that 5 divides into exactly.
[1 mark]**

(a) _____

- (b) Find an odd number greater than 7 that 5 divides into exactly.
[1 mark]**

(b) _____

4 Work out.

**(a) 7×4
[1 mark]**

(a) _____

**(b) $40 \div 8$
[1 mark]**

(b) _____

**(c) $\frac{1}{2}$ of £12
[1 mark]**

(c) £ _____

- 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 mark]

(b) It is _____ that Santos picks the £10 000 prize.

[1 mark]

(c) It is _____ that Santos picks a prize of a holiday to China.

[1 mark]

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