OCR
RECOGNISING ACHIEVEMENT

B273A

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

M3

TUESDAY 11 MARCH 2008

Morning
Time: 30 minutes

Candidates answer on the question paper
Additional materials (enclosed): None

Additional materials (required):
Geometrical instruments
Tracing paper (optional)

CUP/T57736

Candidate Forename		Candidate Surname	
Centre Number		Candidate Number	

INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or 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.

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**.

WARNING

You are not allowed to use a calculator in Section A of this paper.

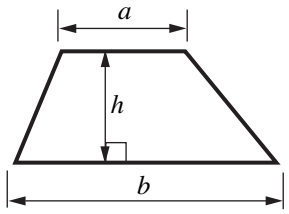
FOR EXAMINER'S USE	
SECTION A	
SECTION B	
TOTAL	

This document consists of **11** printed pages and **1** blank page.

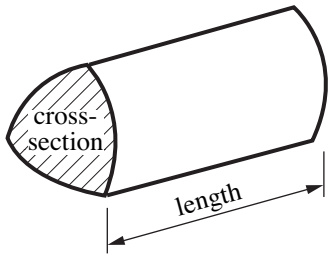
[Turn over

Formulae Sheet

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



Volume of prism = (area of cross-section) × length



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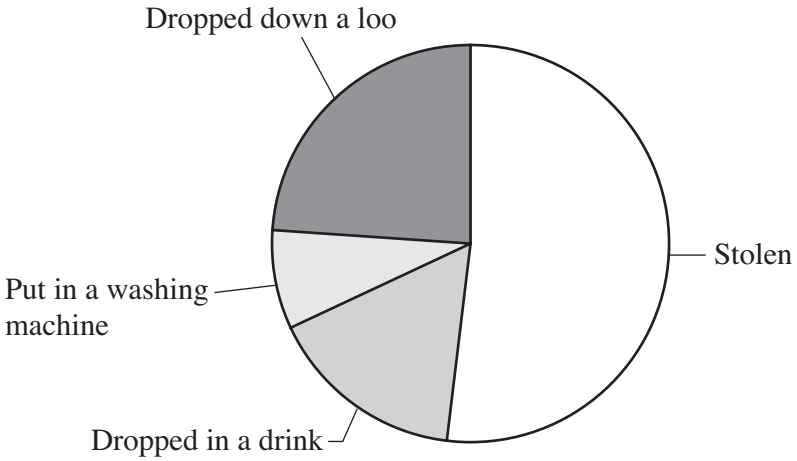
1 **(a)** This pie chart shows the four most common ways mobile phones are lost.



(i) Estimate the percentage of these mobile phones that were dropped down a loo.

(a)(i) .....% [1]

(ii) Andy said:

Twice as many phones are stolen as are dropped down a loo.

Is Andy correct? Explain how you decide.

*Write **yes** or **no**.*

..... because .....

..... [1]

(b) There are 60 million people in the UK.
50% of them own a mobile phone.

What is 50% of 60 million?

(b) .....million [1]

2 This is part of a TV timetable one evening.

BBC One				
20:00 - 20:30 EastEnders	20:30 - 21:00 DIY SOS	21:00 - 21:55 Crimewatch	21:55 - 22:00 Party Political Broadcast	22:00 - 22:25 BBC Ten O'Clock News 22:25 - 22:35 BBC London News
BBC Two				
20:00 - 21:00 RHS Chelsea Flower Show 2006	.... continued RHS Chelsea Flower Show 2006	21:00 - 21:30 Dead Ringers	21:30 - 22:00 Feel the Force	22:00 - 22:30 Have I Got News For You

(a) Amber turned her TV on to BBC One at 21:30 and watched the rest of Crimewatch.

How many minutes of Crimewatch did she see?

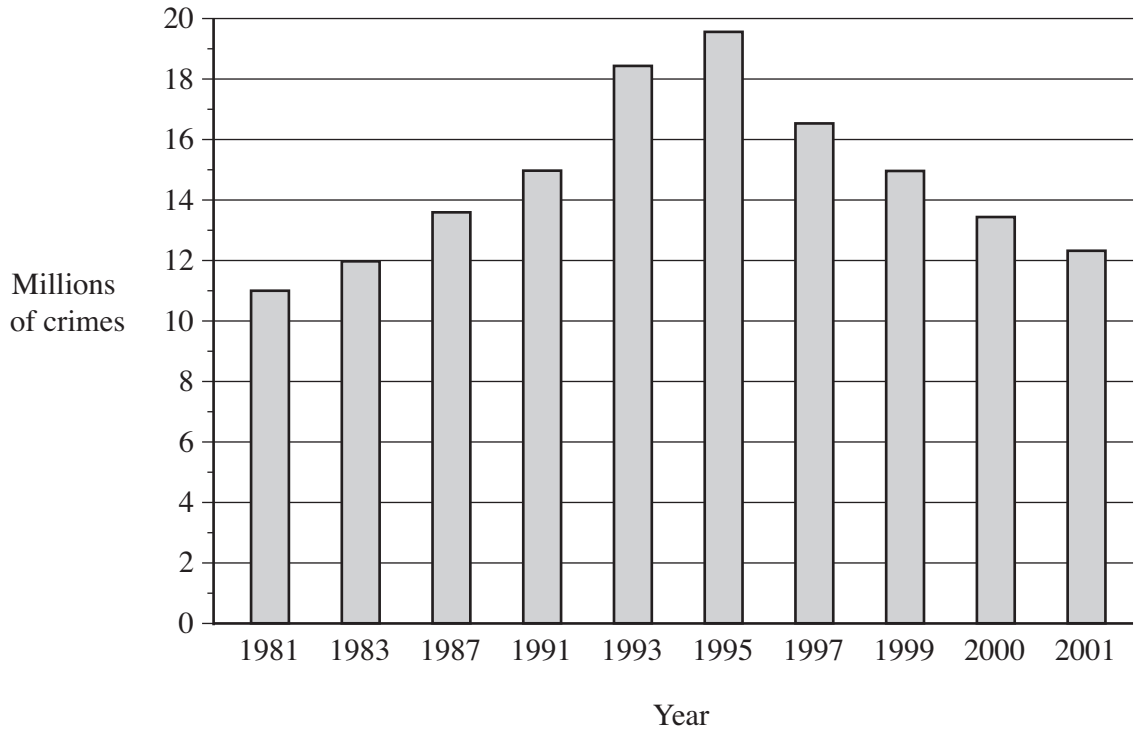
(a) ..... [1]

(b) Later, Amber looked at her watch.
This was the time.

How long was it before the start of BBC London News on BBC One?

(b) ..... minutes [1]

3 Every few years a survey is made of the number of crimes occurring in England and Wales. Here are the results from 1981 to 2001.



Use the chart to complete these sentences.

In ..... there were 12 million crimes. [1]

From 1981 until ..... crime figures were rising. [1]

Between 1997 and 2001 the number of crimes fell by about ..... million. [1]

4 **(a)** Each year 4000 million cans of soft drinks are sold.
Three quarters of these are made from aluminium.

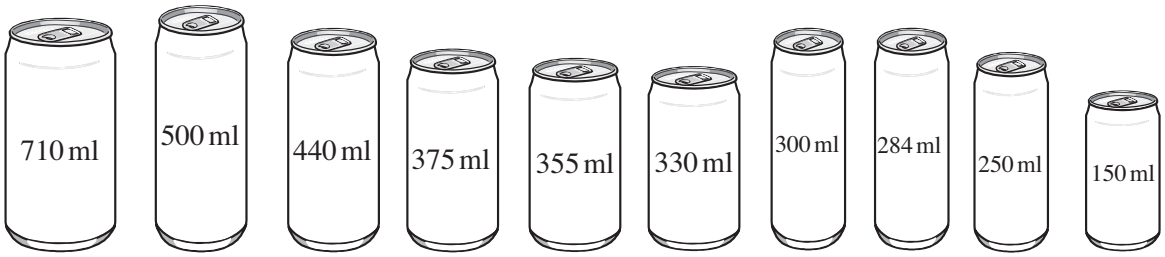
(i) Calculate $\frac{3}{4}$ of 4000.

(a)(i) ..... [1]

(ii) About 10% of all cans sold are sold in 24-packs.
Calculate 10% of 4000.

(ii) ..... [1]

(b) Here are the ten main sizes of aluminium cans and their capacities.



What is the total capacity of the two largest cans?
Give your answer in litres.

(b) ..... litres [2]

(c) Aluminium cans may be recycled.
Recycling 1 kg of cans saves 14 units of electricity.

How many units of electricity are saved by recycling 5 kg of cans?

(c) ..... [2]

(d) An empty aluminium can weighs 50 g.
It is worth 2p for recycling.

How much is 1000 g of empty cans worth?

© istock

(d) ..... p [3]

Question 4 continued

(e) Here are the logos of some aluminium companies.

Put a tick (✓) under any which have reflection symmetry.
Put a cross (✗) under any which **do not** have reflection symmetry.

.....

.....

.....

.....

.....

[2]

5 Solve.

$2x = 8$

..... [1]

6 Work out.

(a) $(4 - 1) \times (7 - 5)$

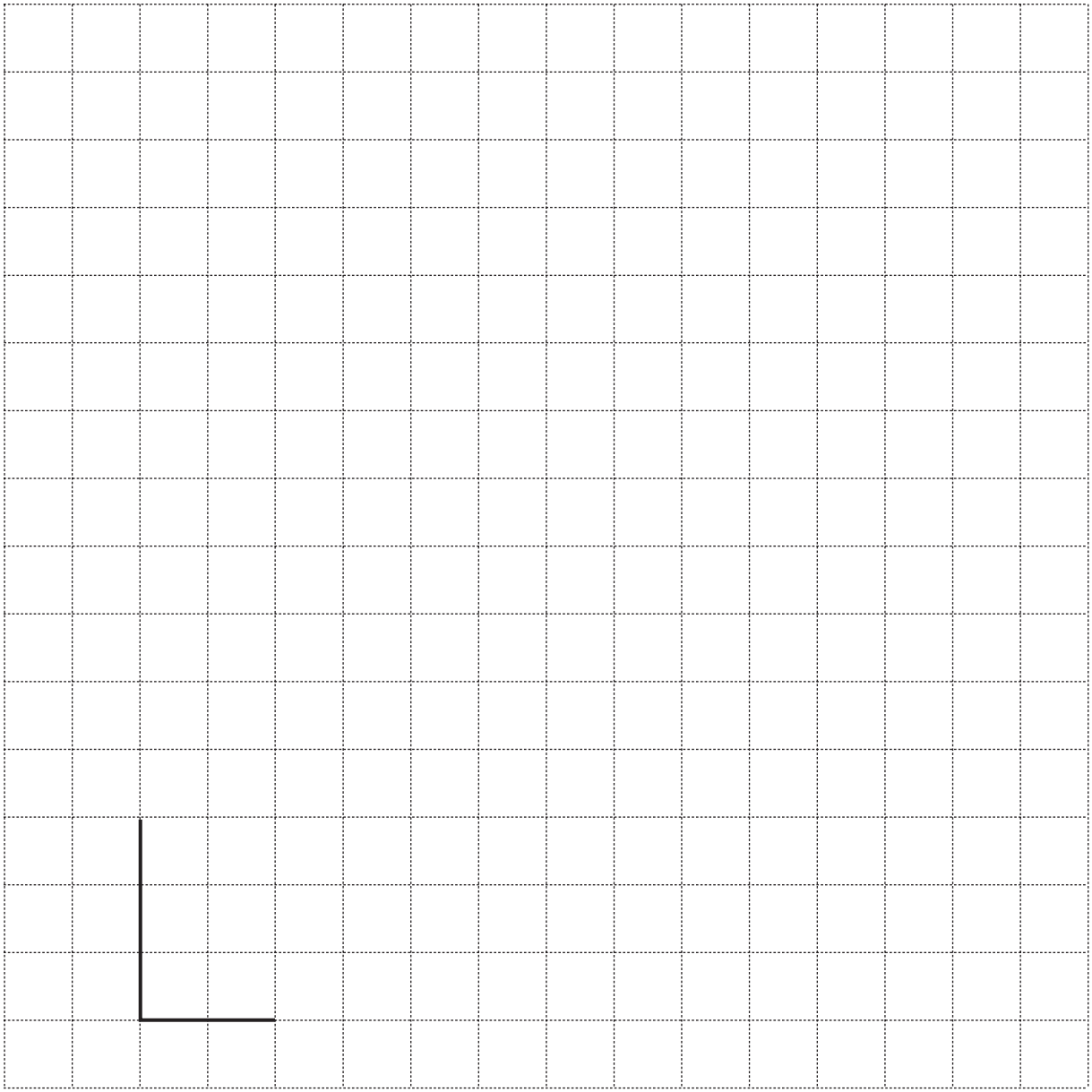
(a) ..... [2]

(b) $3{\cdot}72 \times 100$

(b) ..... [1]

TURN OVER FOR QUESTION 7

7 Draw an enlargement of this L-shape with scale factor 3.



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