![OCR logo] **OCR**
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)

M1 B241A

MODULE M1 – SECTION A

WEDNESDAY 27 JUNE 2007

Morning

Time: 30 minutes

Candidates answer on the question paper.
Additional materials: Geometrical instruments
Tracing paper (optional)

Candidate
Name

Centre
Number

Candidate
Number

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre Number and Candidate Number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- In many questions marks will be given for a correct method even if the answer is incorrect.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

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.

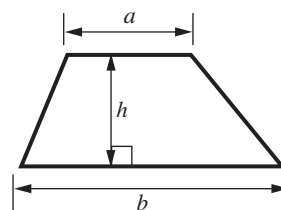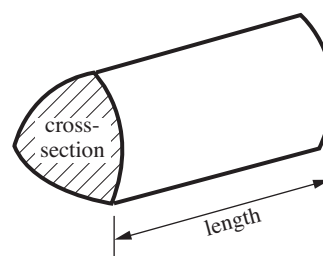| For Examiner's Use	
Section A	
Section B	
Total	

This document consists of **12** printed pages.

Formulae Sheet

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

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

PLEASE DO NOT WRITE ON THIS PAGE

1   Work out.

(a) 61 + 18

(a) .... [1]

(b) 54 - 42

(b) .... [1]

(c) 6 × 5

(c) .... [1]

3

[Turn over

2 Here are the melting temperatures of gold, silver and platinum.

Metal	Melting temperature (°C)
Gold	1064
Silver	962
Platinum	1772

(a) Which of these metals has the highest melting temperature?

(a) .... [1]

(b) Write 1064 to the nearest 10.

(b) .... [1]

(c) The melting temperature of tungsten is
three thousand, four hundred and ten degrees Celsius.

Write three thousand, four hundred and ten in figures.

(c) .... [1]

(d) This arrow shows the temperature in a furnace.
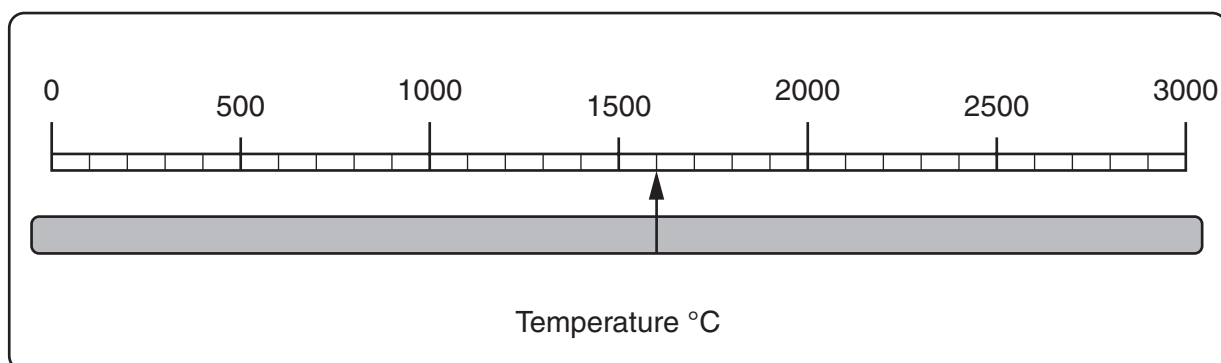
What is the temperature in the furnace?

(d) ....°C [1]

(e) Gold has a melting temperature of 1064 °C.
Iron has a melting temperature that is 471 °C higher than gold.

What is the melting temperature of iron?

(e) ....°C [2]

6

[Turn over

3 Look at these amounts of money.

A

B

C

D

E

F

Which letter goes with each calculator display?

2.2

5.02

....

....
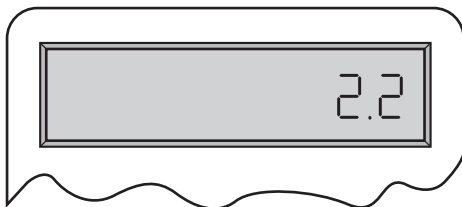
[2]

2

4 England is divided into 9 regions.
They are shown on this map.

Use this list to fill in the four missing names.

NE (North East)   **NW** (North West)
SE (South East)   **SW** (South West)

The English Regions

Yorkshire and the Humber

N

East Midlands

West Midlands

East of England

London

....

....

....

....

[2]

2

[Turn over

5 Three friends are going to London by minibus to see a TV show.

The friends are: Alicia   (A)

                         Bernie   (B)

         and   Connor   (C)

(a) They have three seats at the back of a minibus.

List all the ways they could sit in the three seats.
The first one is done for you.

A	B	C

You may not need to use all the boxes

[2]

(b) (i) Connor looks at his watch.

What time does it show?

(b)(i) .... [1]

(ii) Connor says:

> We will be at the TV studios in another twenty minutes
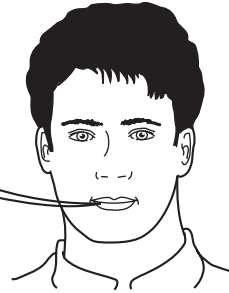
At what time should they arrive at the TV studios?

(ii) .... [1]

6 **(a)** In a game show, a prize box is picked at random.
The player does not know what is inside each box.

Car	£10	Toilet roll	Toilet roll
£100	£100	Toilet roll	Toilet roll
£500	£500	Toilet roll	Toilet roll

Look at these words.

Likely   Unlikely   Certain   Evens   Impossible

Choose the best word to complete these sentences.

It is .... that the player will win a toilet roll.

It is .... that the player will win the car.

It is .... that the player will win a holiday.

[3]

(b) Brian saw this pictogram, showing prize winners, in a newspaper.

Lucky Northerners!!!

The North	👤 👤 👤 👤 👤 👤
London	👤 👤 👤
The Midlands	👤 👤 👤

Key
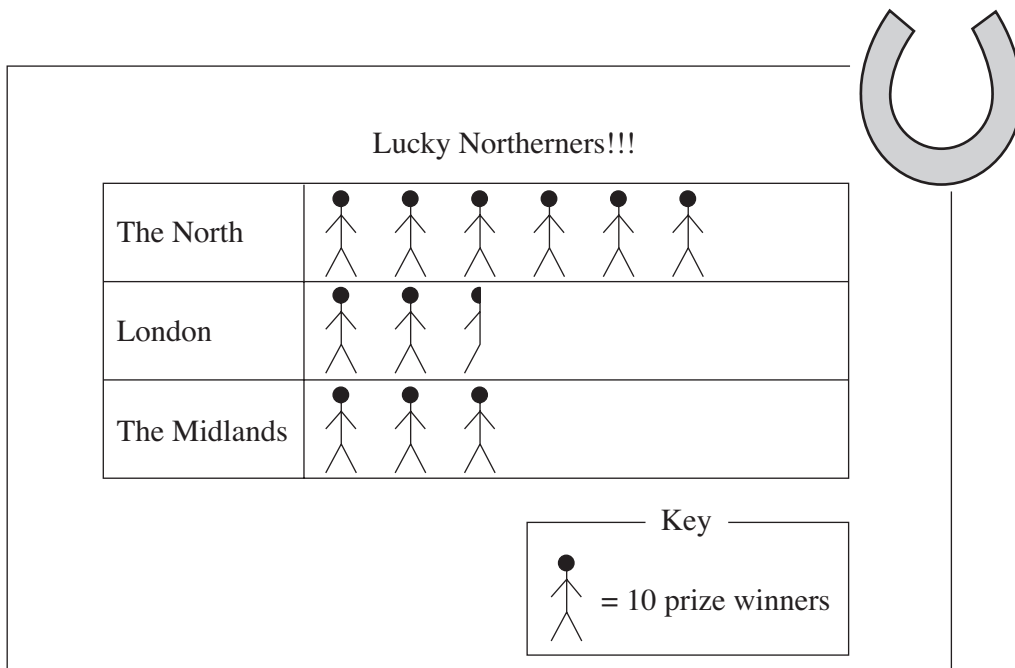
👤 = 10 prize winners

(i) How many prize winners were from The North?

(b)(i) .... [1]

(ii) How many prize winners were from London?

(ii) .... [1]

5

TURN OVER FOR QUESTION 7

7 This sketch shows the distances, in miles, between some motorway services on the M6.

Stafford Keele Charnock Richard Forton Tebay
○—20—○—52—○—27—○—38—○

(a) How far is it from Keele to Forton?

(a) .... miles [1]

(b) Jan is travelling from Keele to Charnock Richard.
She left Keele and travelled for 28 miles.

How much further is it to Charnock Richard?

(b) .... miles [1]

(c) Which of the services is nearly 100 miles from Stafford?

(c) .... [1]

3

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GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

M1 B241B

MODULE M1 – SECTION B

WEDNESDAY 27 JUNE 2007   Morning

Time: 30 minutes

Candidates answer on the question paper.
Additional materials: Geometrical instruments
                         Tracing paper (optional)
                         Electronic calculator

Candidate Name	

Centre Number					

Candidate Number				

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INFORMATION FOR CANDIDATES

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- The total number of marks for this Section is 25.
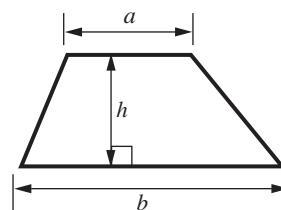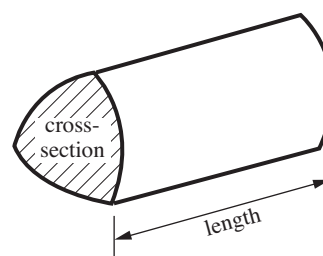- Section B starts with question 8.

For Examiner's Use	
Section B	

This document consists of **10** printed pages and **2** blank pages.

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

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

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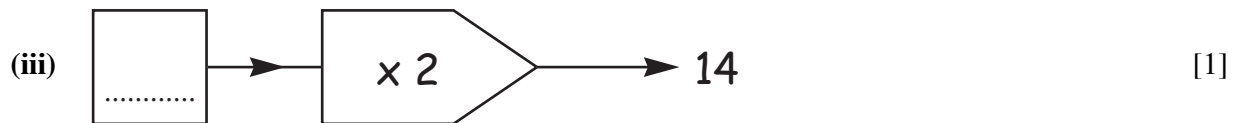
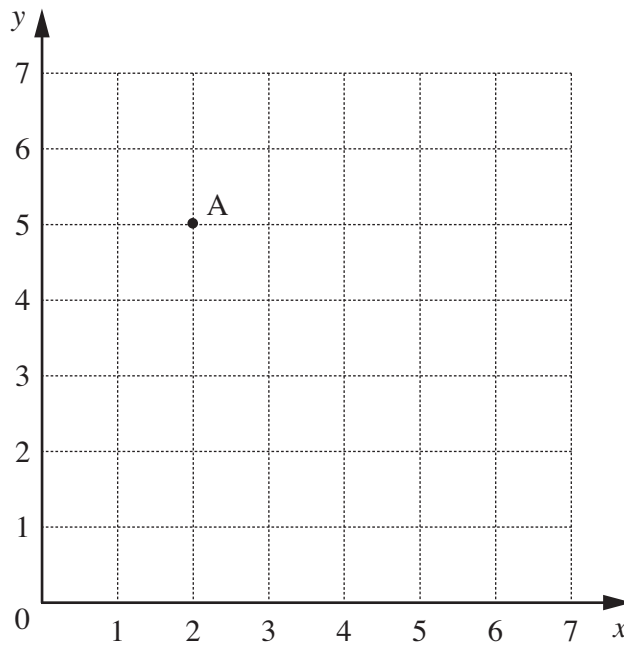**8** **(a)** Complete.

(i) 6 + ☐ .... = 13 [1]

(ii) 14 – ☐ .... = 5 [1]

(iii) ☐ .... → ⬠ × 2 → 14 [1]

(b)

(i) What are the coordinates of point A?

(b)(i) (............. , ...) [1]

(ii) Plot a point at (0, 4).
Label it B. [1]

5 ☐

[Turn over

9 **(a)** The numbers in this grid follow a pattern.

Row 1	1	2	3	1
Row 2	2	3	1	2
Row 3	3	1	2	3
Row 4	1	2	3	1
Row 5	2	3	1	2
Row 6	....	....	....	....

    (i) Fill in the missing numbers in row 6. [1]

    (ii) How did you work out your answer?

    ....

    .... [1]

(b) Here are some numbers in another grid.
The numbers are in a pattern.

Row 1	1	2	3	4	5
Row 2	6	7	8	9	10
Row 3	11	12	13	14	15
Row 4	16	17	18	19	20
Row 5	21	22	23	24	25
Row 6	26	27	28	29	30

Complete these sentences by joining each to one of these endings.
The first one has been done for you.

.... always divisible by 10.

The numbers in each row are ....

.... always even.

The shaded numbers are ....

.... always divisible by 5.

The last numbers in each row are ....

.... consecutive numbers.

.... always odd.

[2]

4

[Turn over

10 **(a)** This is the logo for a tiling company.
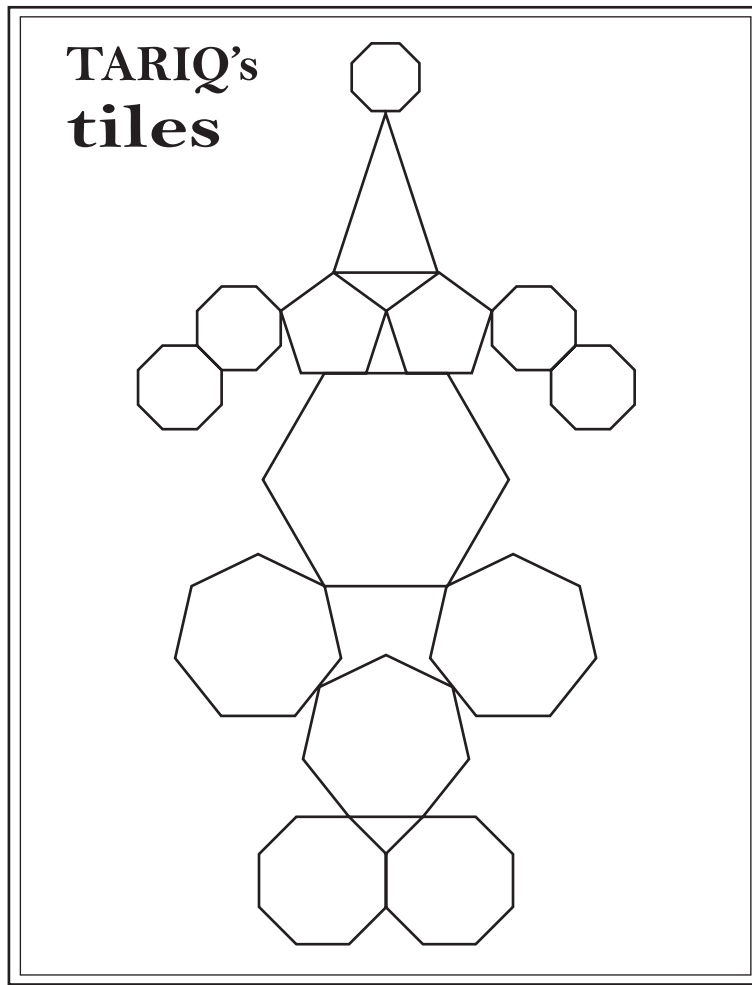
How many of the shapes are

(i) hexagons,

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

(ii) pentagons?

(ii) .... [1]

(b) This is a square tile.
What fraction of the tile is shaded?
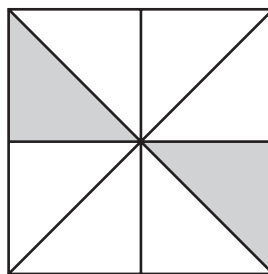
(b) .... [1]

(c) Draw an enlargement of this windsurf club logo.
Make each line twice as long.
One line has been drawn.

[3]

6

[Turn over
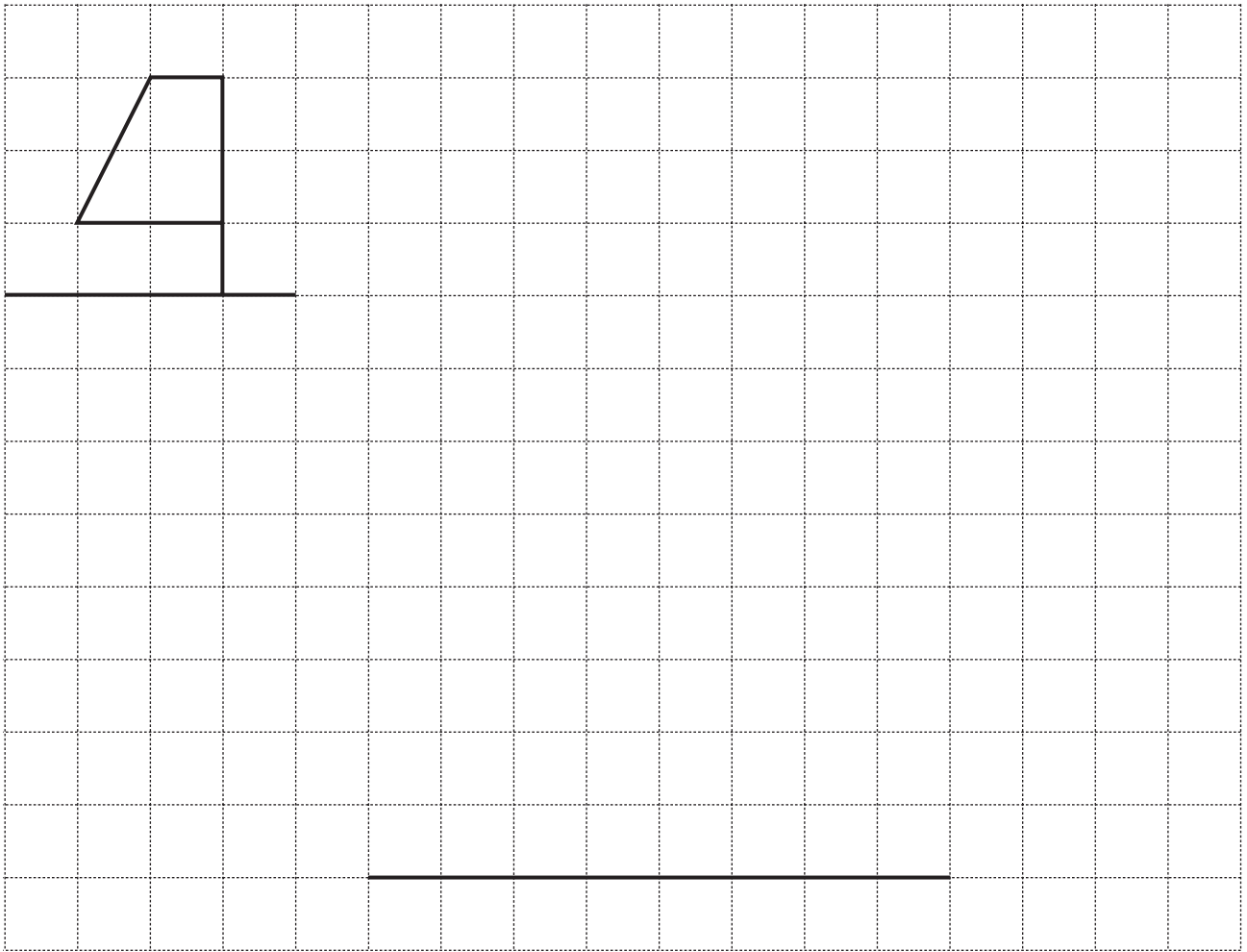
11 (a) One gram of this gold costs £13·70.

How much does this 100 g gold bar cost?

(a) £.................................. [1]

(b) The metal used for gold rings is $\frac{3}{4}$ pure gold.

A gold ring weighs 8 g.

What is $\frac{3}{4}$ of 8 ?

(b) .... [2]

(c) Maryann makes earrings from gold wire.
She has 2 m of gold wire.

(i) How many centimetres is 2 metres?

(c)(i) .... cm [1]

(ii) Each pair of earrings needs 25 cm of gold wire.

How many pairs of earrings can she make from 2 m of gold wire?

(ii) .... [1]

(iii) Maryann wants to make some triangular earrings.

Measure the perimeter of this triangle.

Give the units of your answer.
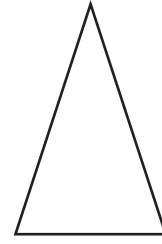
(iii) .... [3]

(d) This solid figure is made from gold cubes.
Each cube has a volume of $1\,cm^3$.

(i) What is the volume of the solid figure?
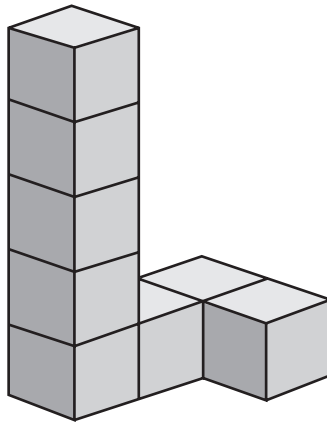
(d)(i) ....cm^3 [1]

(ii) The gold in the solid figure costs £2000.

How much does $1\,cm^3$ of this gold cost?

(ii) £.............................. [1]

10

10

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