![OCR RECOGNISING ACHIEVEMENT]

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

MATHEMATICS C
(Graduated Assessment)

1966/2341B

FOUNDATION TERMINAL PAPER – SECTION B

Monday   **5 JUNE 2006**   Afternoon   1 hour

Candidates answer on the question paper.
Additional materials:
    Geometrical instruments
    Pie chart scale (optional)
    Tracing paper (optional)
    Scientific calculator

Candidate
Name

Centre
Number

Candidate
Number

TIME   1 hour

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

- You are expected to use a calculator in Section B of this paper.
- 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 50.
- Section B starts with question 11.
- Use the π button on your calculator or take π to be 3·142 unless the question says otherwise.

FOR EXAMINER'S USE

Section B	

This question paper consists of 13 printed pages and 3 blank pages.
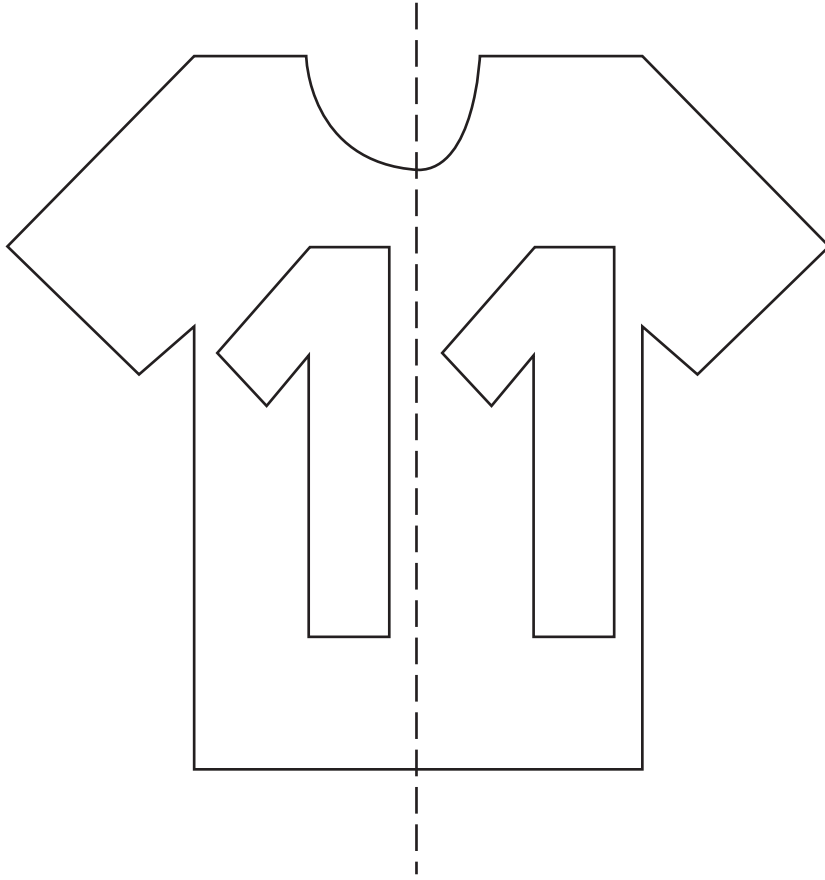
[Turn over

Formula Sheet: Foundation Tier

Area of trapezium $= \frac{1}{2}(a+b)h$
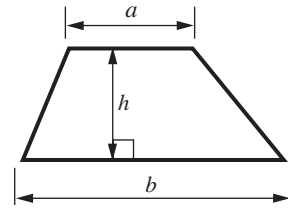
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11 (a) This is Martin's drawing.
The dotted line should be a line of symmetry, but he has made two mistakes.

Put a ring around each mistake.

[2]

(b) Ron has made this solid shape with seven cubes.
He needs to add **one** extra cube so that his solid has **one** plane of symmetry.

Put a ✗ to show where the extra cube should be placed.

[1]

[Turn over
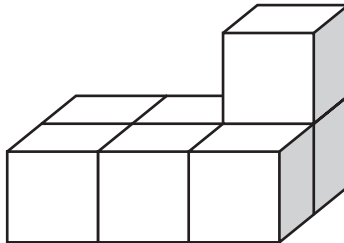
12 (a) Here is some information about the engine sizes, in cc, of some family cars.

| Nissan |
| Almera Tino |
| **2184** |

| Vauxhall |
| Meriva Design |
| **1796** |

| Mazda |
| MPV |
| **1998** |

| Citroen |
| C8 SX |
| **2179** |

| Ford |
| Galaxy Ghia |
| **1896** |

(i) Write the engine sizes in order, smallest first.

....   [2]
smallest

(ii) Which engine size is closest to 2000?

(a)(ii) ....[1]

(b) Sally has a Ford Galaxy Ghia.

(i) The engine size is 1896 cc.

Write 1896 in words.

....[1]

(ii) Here is her speedometer.
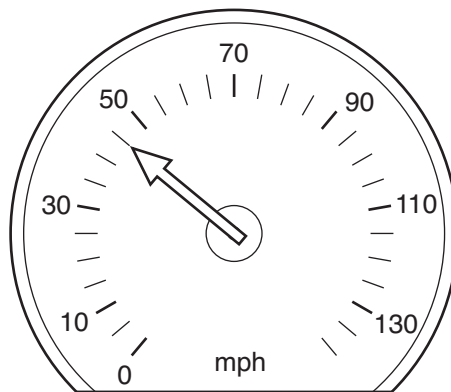
What speed does the speedometer show?

(b)(ii) ....mph [1]

(iii) The fuel tank holds 72 litres.
She knows her car will travel 30 miles on one gallon of fuel.

Use this formula to work out how many miles her car will travel on 72 litres of fuel.

> **Number of Litres** divided by **4·5**
> then multiply by **30**

(iii) ....miles [3]

8

13 (a) Simplify.

$$9c + 8d - 2d - 5c$$

(a) ....[2]

(b) Multiply out.

$$4(2e + 5)$$

(b) ....[1]

3

[Turn over

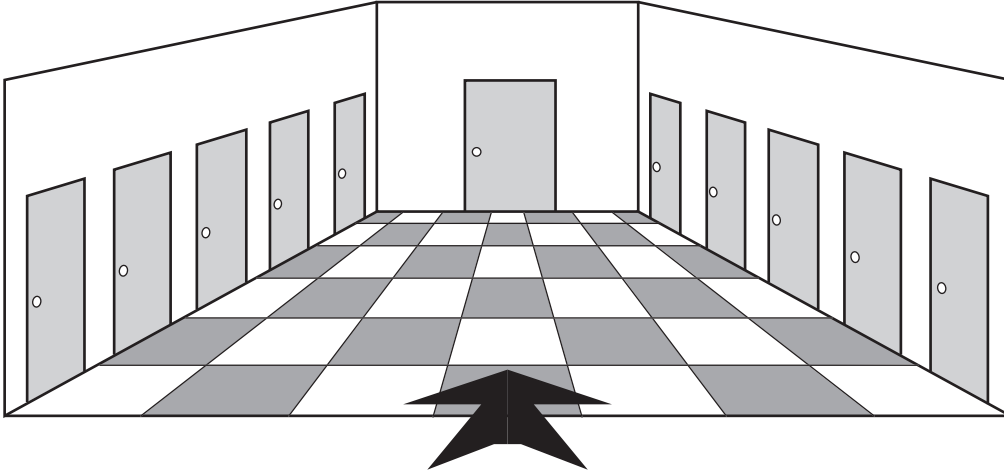**14** Lee is playing a computer game.

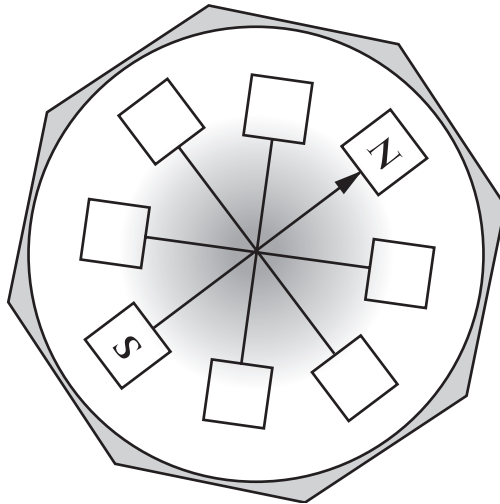**(a)** | 1 Take the third door on the right

Lee must choose the correct door.

Put a ✗ on the third door on the right. [1]
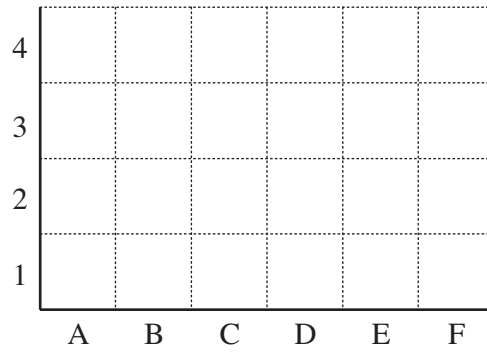
(b) | 2 Walk through the SE door

The compass has N and S marked.

Write SE in the correct place on the compass. [1]
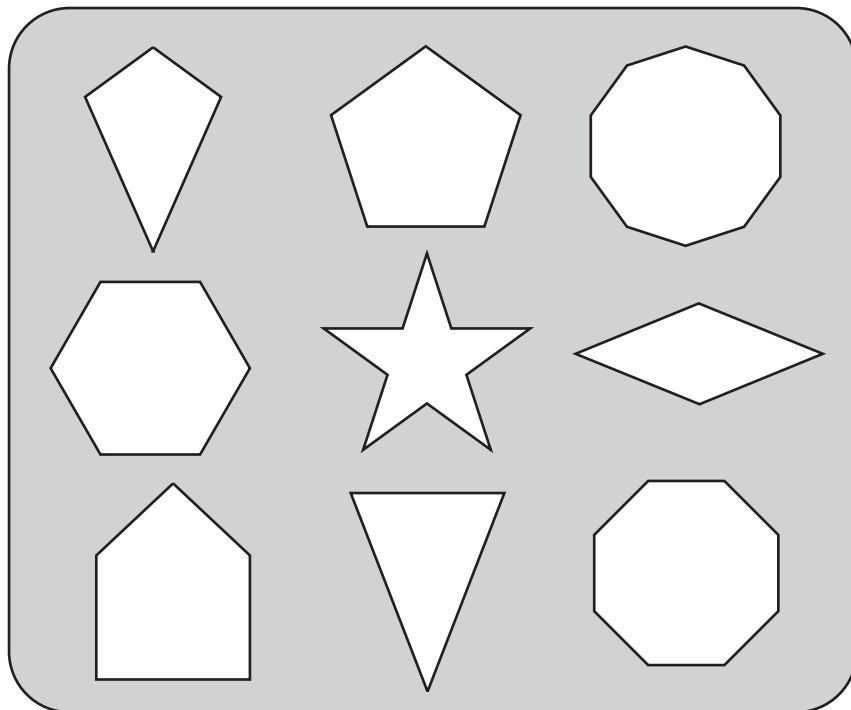
(c)   3   The key is in square D2

Put a ✗ in square D2.   [1]

(d)   4   The treasure is behind the hexagon
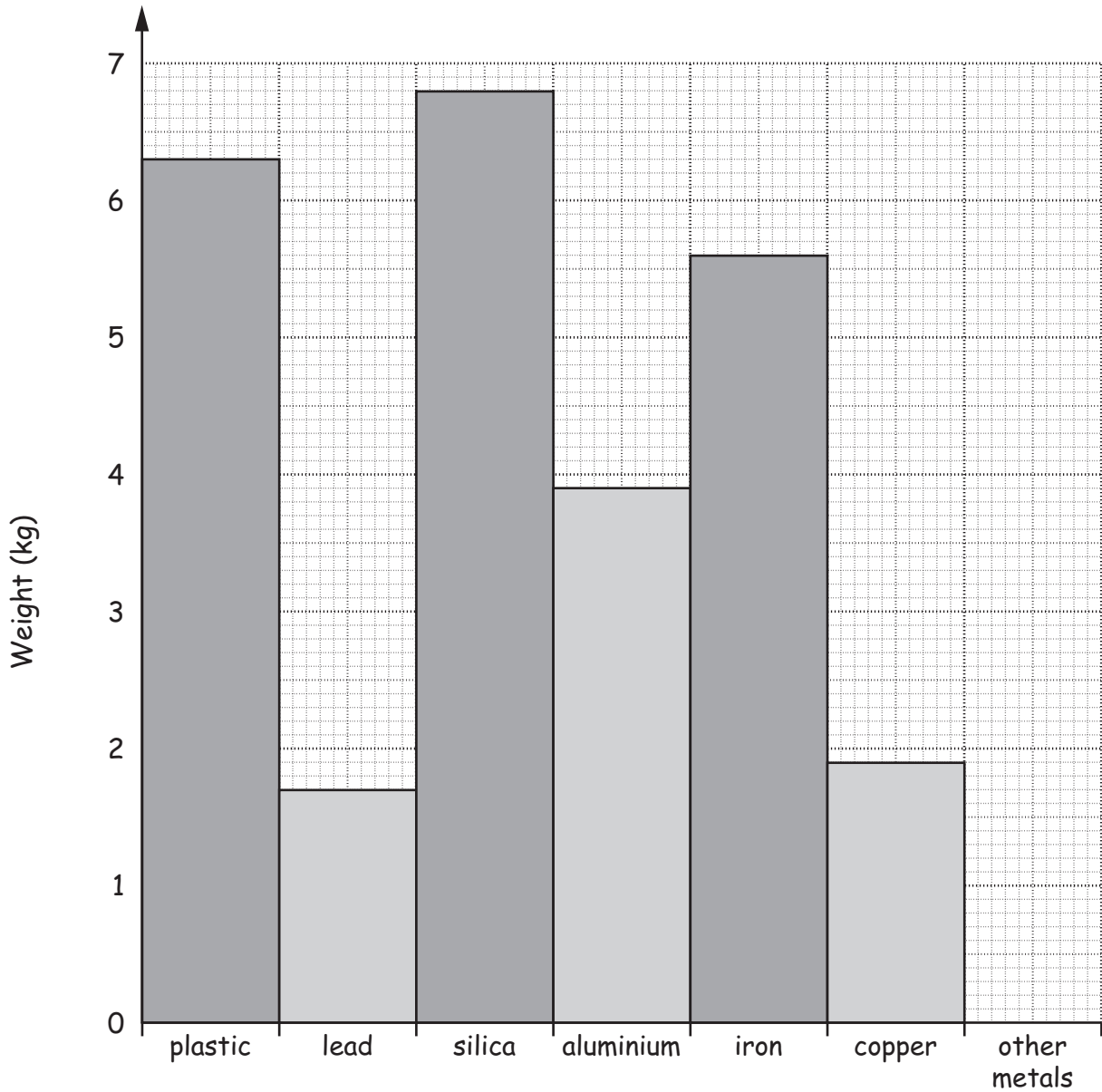

Put a ✗ in the hexagon.   [1]

4

[Turn over

15 A computer is made using a variety of materials.
This bar chart shows the weight of each of them in a typical 27 kg computer.

(a) There is 0·8 kg of **other metals** in the computer.

Show this on the bar chart. [1]

(b) Complete these sentences.

The weight of iron is .... kg. [1]

The weight of .... is 1·7 kg. [1]

There is more .... than plastic. [1]

4

16 **(a)** Put a pair of brackets into this calculation so that the answer of 6 is correct.

$$4\cdot1^2 \quad + \quad 1\cdot79 \quad \div \quad \sqrt{9\cdot61} \quad = \quad 6$$ [2]

(b) Calculate.

$$\frac{12\cdot74 - 4\cdot35}{1\cdot58 + 7\cdot16}$$

Give your answer correct to two decimal places.

(b) ....[2]

4

17 **(a)** Here is a sequence.

$$41, \qquad 36, \qquad 31, \qquad 26, \qquad ....$$

Explain how to work out the next number in this sequence.

....[1]

(b) The *n*th term of a different sequence is $2n + 5$.

Write down the first three terms of this sequence.

(b) .... , ... , ...[2]

3

18 This graph shows the ideal weight for babies of different heights.
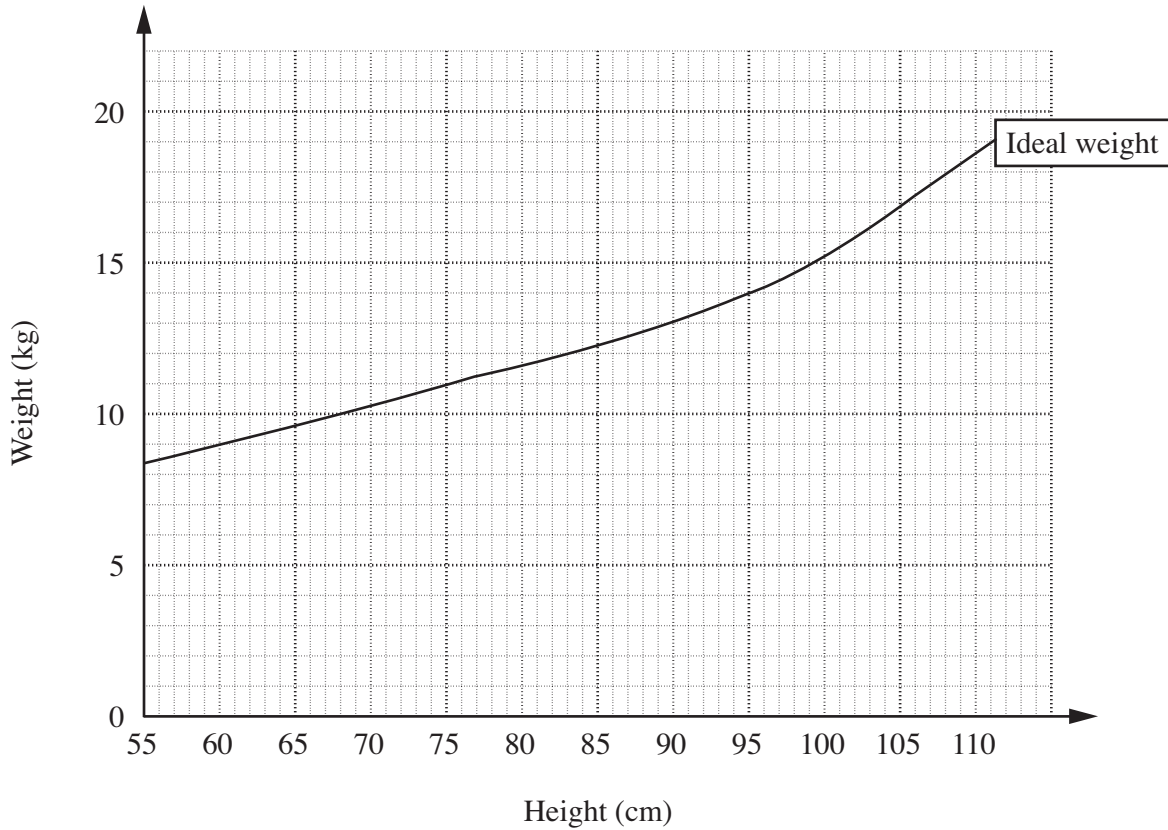
(a) Katie's height is 75 cm.

Write down the ideal weight for Katie.

(a) ....kg [1]

(b) Jed's height is 68 cm and his weight is 12 kg.

Put a ✗ on the graph to show this information. [1]

(c) Vicky's weight is 15 kg.
Her weight is 1 kg below her ideal weight.

What is Vicky's height?

(c) ....cm [2]

4

19 (a) Furniture Warehouse is having a sale.

Furniture Warehouse

was £124

now 15% off

free delivery

Before the sale, the price of a chair was £124.

The price is reduced by 15% in the sale.

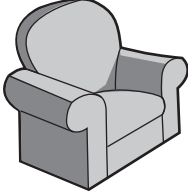Calculate the sale price.

(a) £.................................[3]

(b) Homes 4 U has the same chair in a sale.

Homes-4-U

was £110

now $\frac{1}{10}$ off

plus £5 delivery charge
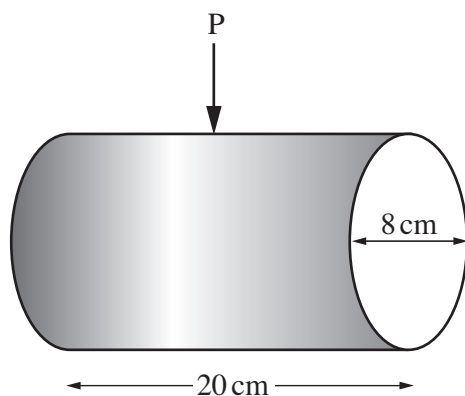
Dennis buys the chair from Homes-4-U and has it delivered.

How much cheaper for Dennis is the Homes-4-U deal than the Furniture Warehouse deal?

(b) £ ....[3]

6

[Turn over

20 This is a solid cylinder.
The length is 20 cm and the diameter is 8 cm.

(a) Draw a plan view (from P) of this cylinder.
Use a scale of **1 cm to 4 cm**.

[2]

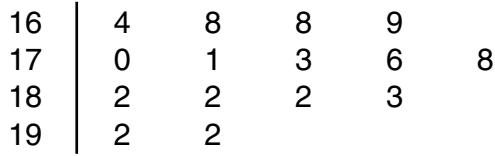**(b) (i)** Write down the radius of the circular end of this cylinder.

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

(ii) Work out the area of the circular end of the cylinder.

(ii) ....cm^2 [2]

5

21 Suzie measured the heights, in cm, of the 15 boys and 15 girls in her class.

This is a stem and leaf diagram of the heights of the boys.

```
16 | 4   8   8   9
17 | 0   1   3   6   8
18 | 2   2   2   3
19 | 2   2
```

Key: 16 | 4   means 164 cm

(a) Find the median height of the boys.

(a) ....cm [2]

(b) Here are the heights of the girls.

171   155   166   170   149   154   175   168

161   159   181   162   163   177   166

Construct a stem and leaf diagram for the heights of the girls.

[3]

(c) Write down a comment comparing the heights of the boys with the heights of the girls.

....

....[1]

6

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16

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