

MATHEMATICS

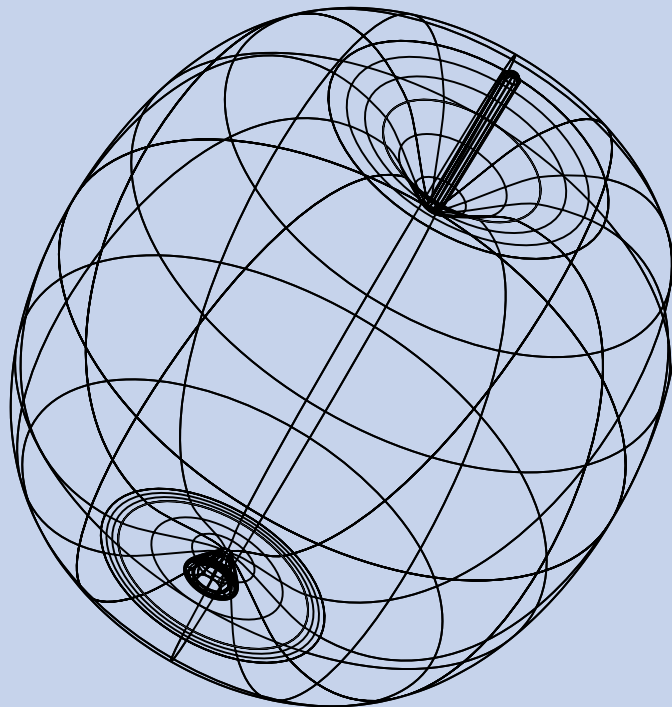
KEY STAGE 2 2000

TEST C

LEVEL
6

CALCULATOR ALLOWED

| PAGE | MARKS |
|--------------|-------|
| 1 | |
| 3 | |
| 5 | |
| 7 | |
| 9 | |
| 11 | |
| 13 | |
| 14 | |
| TOTAL | |



First Name

Last Name

School

Instructions

You **may** use a calculator to answer any questions in this test.

Work as quickly and as carefully as you can.

You have **30 minutes** for this test.

If you cannot do one of the questions, **go on to the next one**.
You can come back to it later, if you have time.

If you finish before the end, **go back and check your work**.

Follow the instructions for each question carefully.



This shows where you need to put the answer.

If you need to do working out, you can use any space on a page.

Some questions look like this:



Show
your **method**.
You may get
a mark.

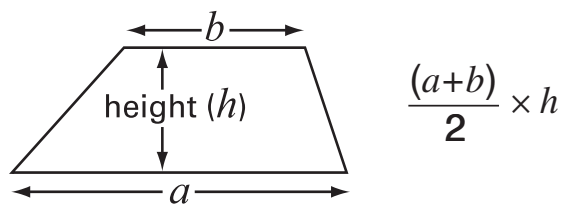
A diagram showing a large rectangular box for working out. A smaller rectangular box is positioned at the bottom right of the large box. A speech bubble with a pencil icon and the text 'Show your method. You may get a mark.' has an arrow pointing to the large box.

For these questions you may get a mark for showing your method.

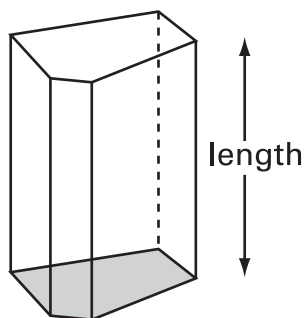
Formulae

You might need to use these formulae in this test.

Area of a trapezium



Volume of a prism



area of cross-section x length

Q1.





Shortcrust pastry is made using flour, margarine and lard.

The **flour**, **margarine** and **lard** are mixed in the ratio

8 : 3 : 2 by weight.

How many grams of **margarine** and **lard** are needed to mix with **200 grams** of flour?

 Show your **working**. You may get a mark 

| | | | | | |
|-----------|----------------------|---|------|----------------------|---|
| margarine | <input type="text"/> | g | lard | <input type="text"/> | g |
|-----------|----------------------|---|------|----------------------|---|

2 marks

Q2. Chloe and Denise each bought identical T-shirts from the same shop.

Chloe bought hers on Monday when there was **15% off** the original price.




Denise bought hers on Friday when there was **20% off** the original price.



Chloe paid **35p more** than Denise.

What was the **original price** of the T-shirt?



Show your **working**.
You may get a mark

£

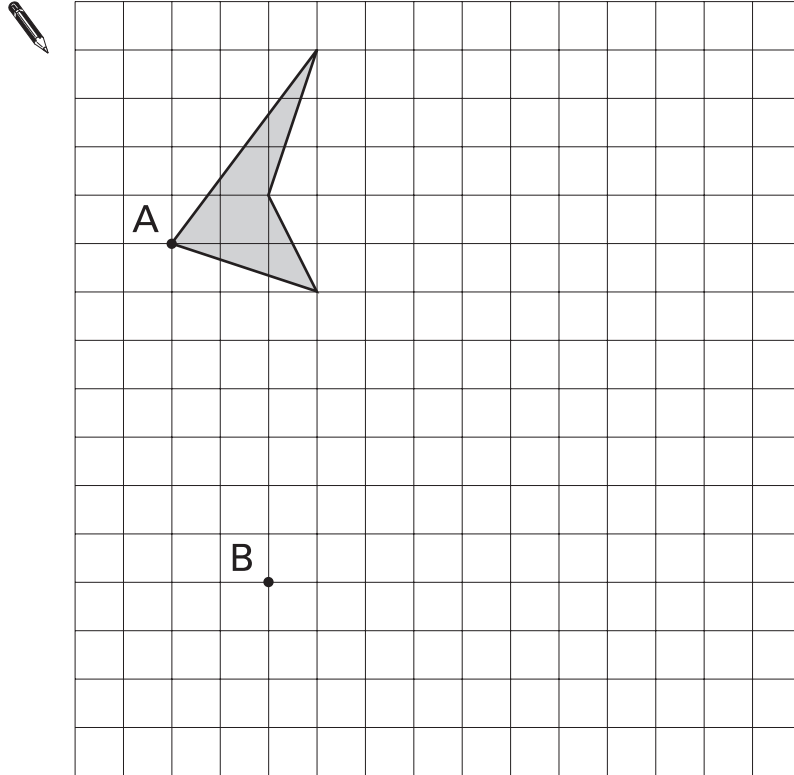
2 marks

3

The shaded shape is translated from **A** to **B** and **enlarged** by a **scale factor of 2**

Draw the **enlarged shape** on the grid.

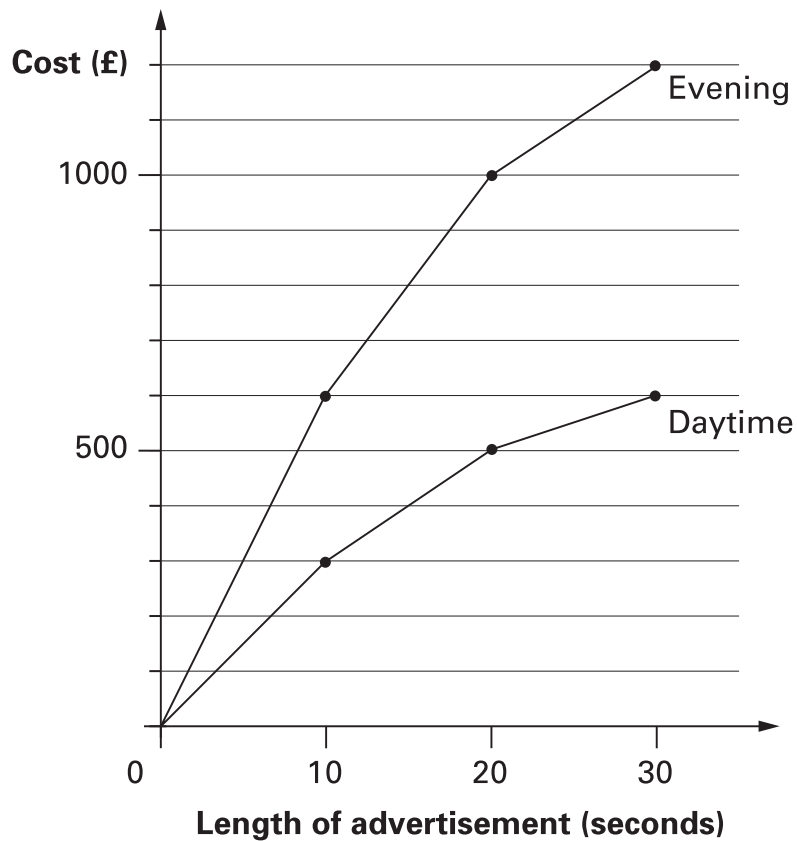
Use a ruler.



3
2 marks

4

This chart gives the cost of showing advertisements on television at different times.



An advertisement lasts **25 seconds**. Use the graph to estimate how much **cheaper** it is to show it in the **daytime** compared with the **evening**.



4a

1 mark

An advertisement was shown in the **daytime** and again in the **evening**.

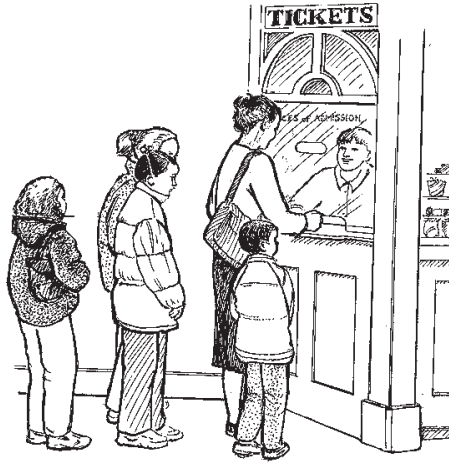
The total cost was **£1200**

How long was the advertisement in seconds?



4b

1 mark



Two families go to the cinema.

The Smith family buy tickets for **one adult** and **four children** and pay **£19**

The Jones family buy tickets for **two adults** and **two children** and pay **£17**

What is the cost of **one child's ticket**?



Show
your **method**.
You may get
a mark.

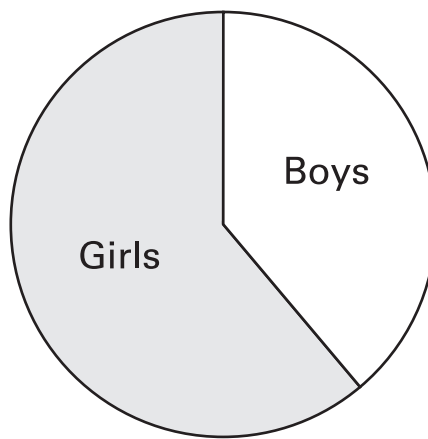
£

5
2 marks

6

Sarah makes a pie chart to show the proportion of boys and girls in her class.

| | Number in class | Size of angle on pie chart |
|-------|-----------------|----------------------------|
| Boys | 14 | 144° |
| Girls | 21 | 216° |



The next day another **boy** joins Sarah's class.

She makes a new pie chart.

Calculate the angle for **boys** on the new pie chart.



Show your **method**.
You may get a mark.

○

6
2 marks

7

What is the value of u in this equation?

$$5u - 10 = u + 46$$



Show your **method**.
You may get a mark.

7
2 marks

8

What fraction is **exactly** half-way between $\frac{3}{5}$ and $\frac{5}{7}$?

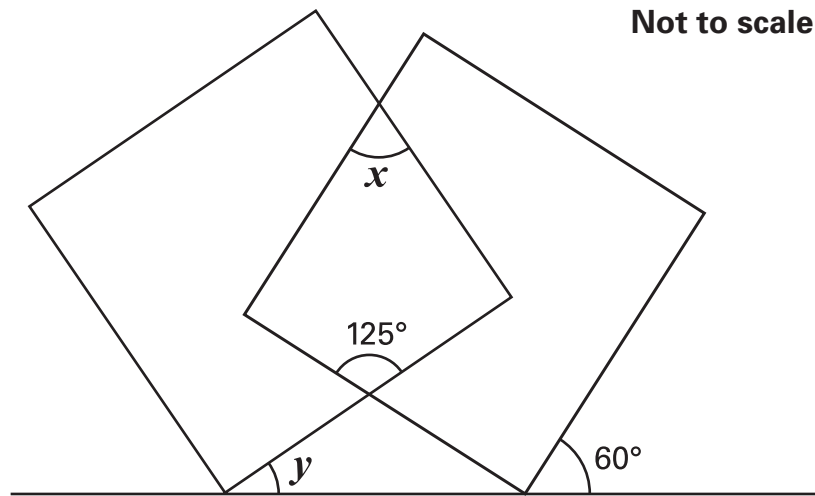


8
1 mark



9

The diagram shows two overlapping squares and a straight line.



Calculate the value of **angle x** and the value of **angle y**.

Do **not** use a protractor (angle measurer).

 $x =$

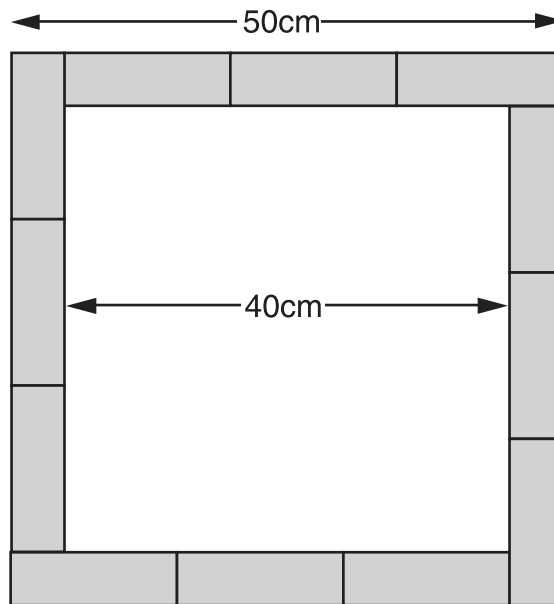
9a
1 mark

 $y =$

9b
1 mark

10

Twelve rectangles, all the same size, are arranged to make a square, as shown in the diagram.



Calculate the **area** of **one** of the rectangles.



Show your **method**. You may get a mark.

Blank area for showing the method to calculate the area of one rectangle.

cm²

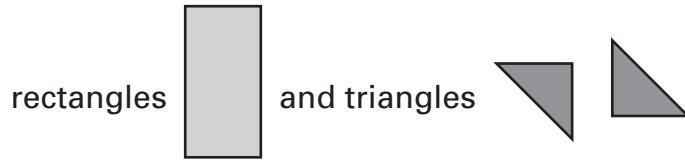
10

2 marks

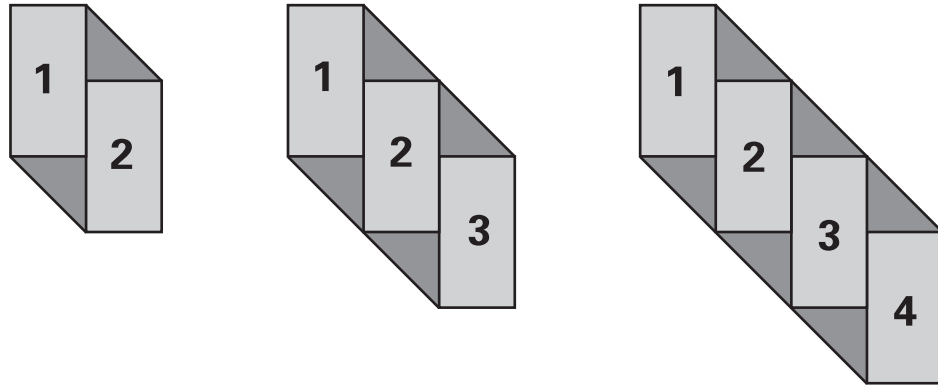


11

Here is the start of a sequence of shapes using



Each rectangle has been numbered.



The pattern continues to grow in this way.

How many triangles will there be in the shape that has **50 rectangles** in it?



11a
1 mark

T stands for the number of triangles in each shape.

R stands for the number of rectangles in each shape.

What is the rule connecting **T** and **R** ?



.....

.....

.....

11b
1 mark



There are **six balls** in a bag.

The probability of taking a **red ball** out of the bag is **0.5**

A **red ball** is taken out of the bag, and put to one side.

What is the probability of taking another **red ball** out of the bag?



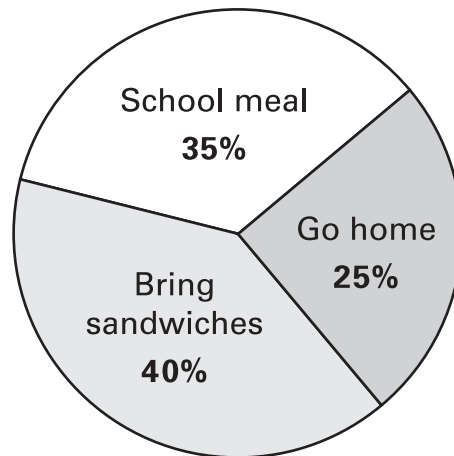
Show
your **method**.
You may get
a mark.

12

2 marks



This pie chart shows the lunch choices of year 6 children at a school.



28 children in year 6 have a **school meal**.

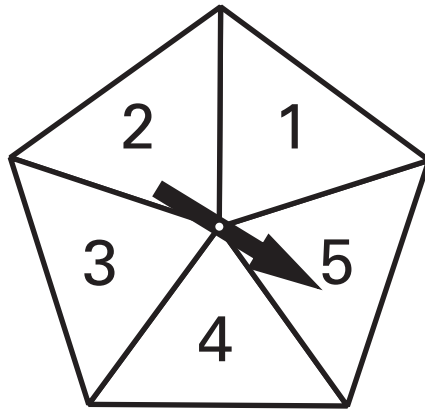
How many **go home** for lunch?

Show your **method**.
You may get a mark.

13
2 marks

14

Here is a spinner with five equal sections.



Jane and Sam play a game.

They spin the pointer many times.

If it stops on an **odd number**, Jane gets **2 points**.

If it stops on an **even number**, Sam gets **3 points**.

Is this a fair game? Circle Yes or No.



Yes / No

Explain your answer.



.....

.....

.....

14
1 mark

15

The **product** of two numbers is **999**

The **difference** between them is **10**

What are the two numbers?



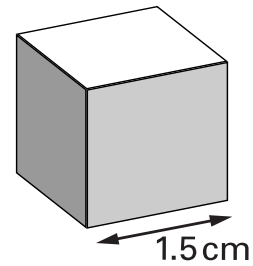
Show your **method**.
You may get a mark.

Blank area for showing the method to solve the problem, with two empty rectangular boxes at the bottom right.

15
2 marks

16

Amit has some small cubes.



The edge of each cube is **1.5 centimetres**.

He makes a larger cube out of the small cubes.

The **volume** of this larger cube is **216 cm³**.

How many small cubes does he use?



Show your **method**.
You may get a mark.

Blank area for showing the method to solve the problem, with one empty rectangular box at the bottom right.

16
2 marks

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