

# MATHEMATICS

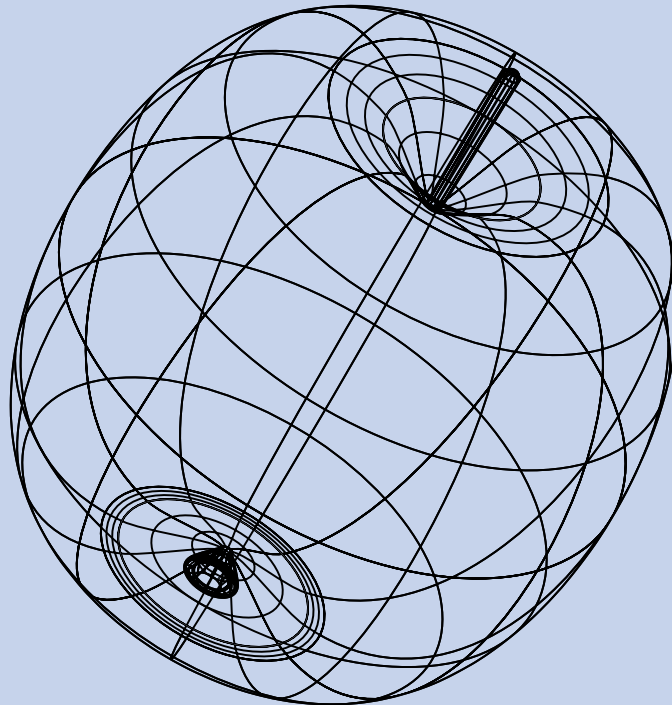
KEY STAGE 2 2000

TEST C

LEVEL  
**6**

CALCULATOR ALLOWED

PAGE	MARKS
1	
3	
5	
7	
9	
11	
13	
14	
<b>TOTAL</b>	



**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.

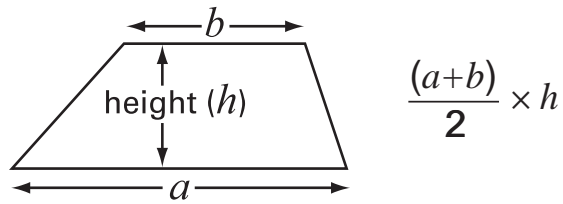
A diagram showing a large rectangular box for working out. To the right of this box is a smaller, empty rectangular box for the answer. A speech bubble with a pencil icon and the text 'Show your method. You may get a mark.' has an arrow pointing to the large box.

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

# Formulae

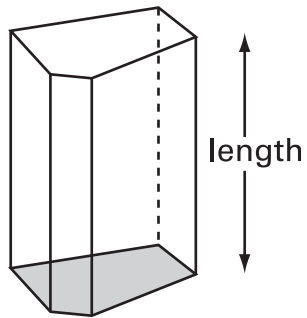
You might need to use these formulae in this test.

## Area of a trapezium



$$\frac{(a+b)}{2} \times h$$

## 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  g      lard  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

£

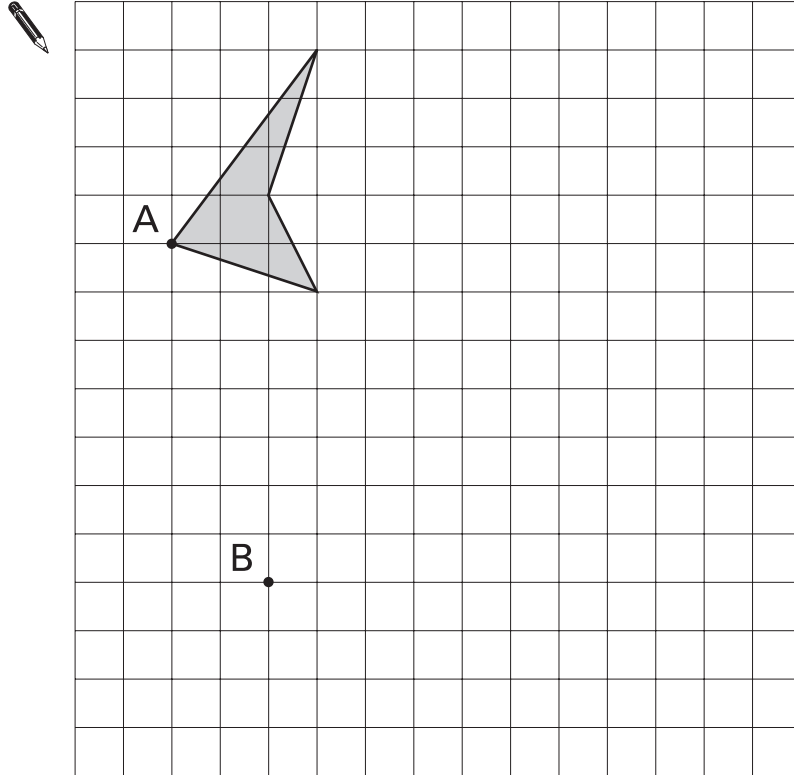
2 marks

**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.



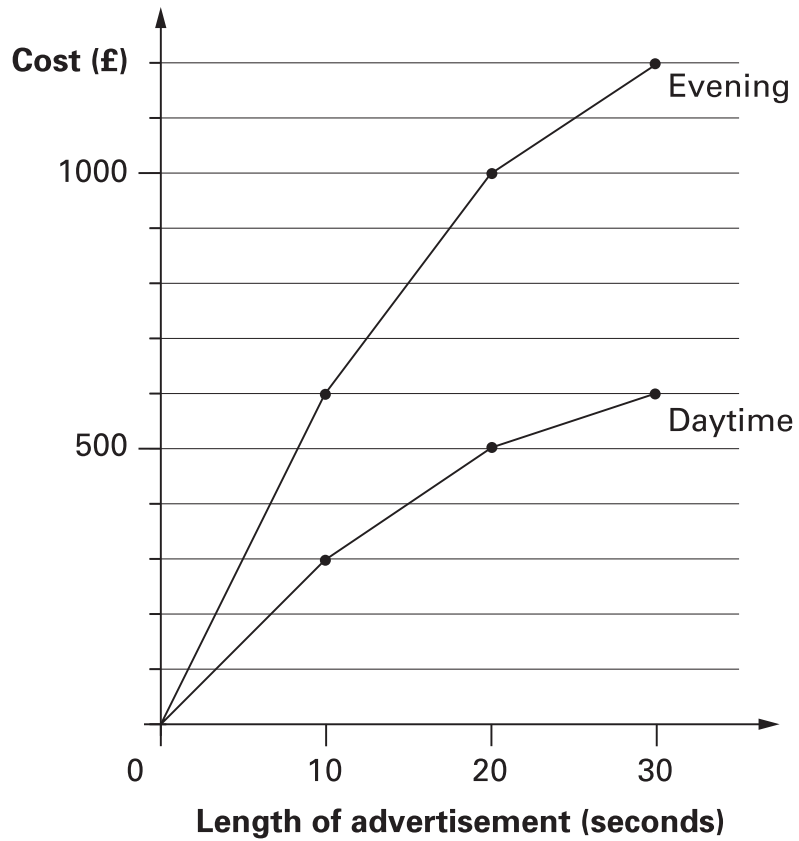
3

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?



seconds

4b

1 mark



5



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.

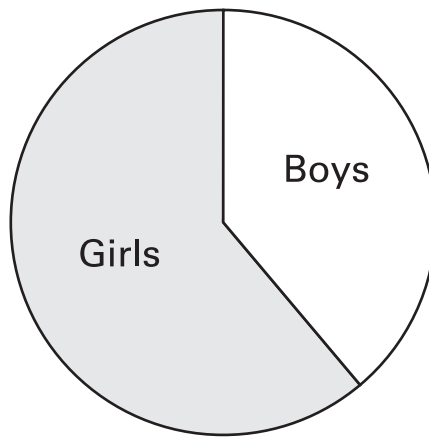
£

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

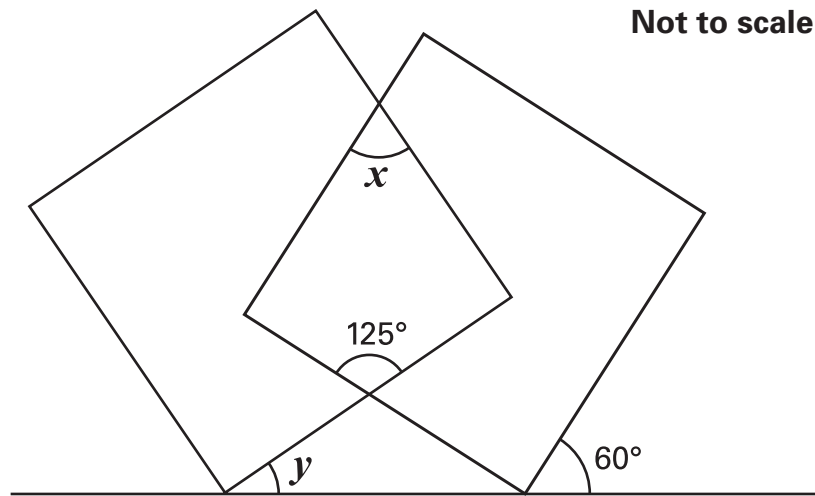
8

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).

  $x =$

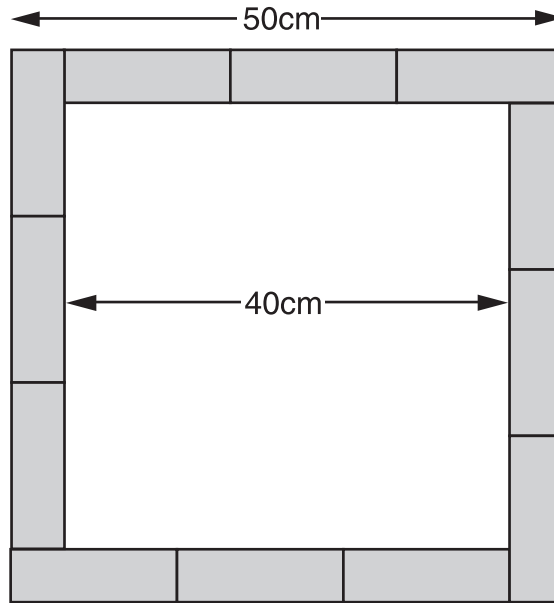
9a  
1 mark

  $y =$

9b  
1 mark

**10**

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

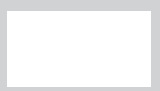


Calculate the **area** of **one** of the rectangles.

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

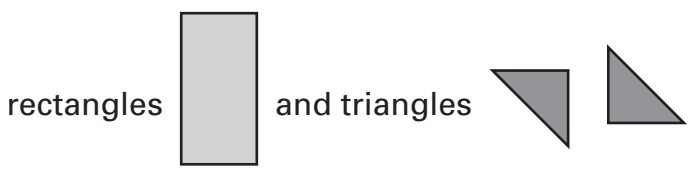
$\text{cm}^2$

10  
2 marks

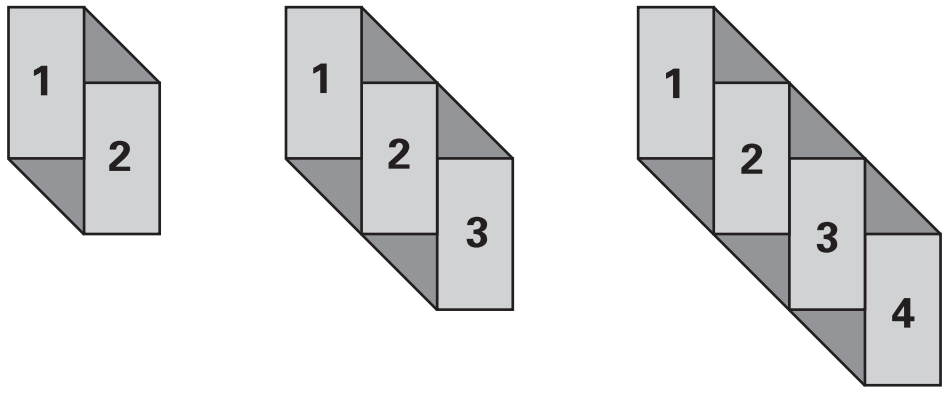


**11**

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

12



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.

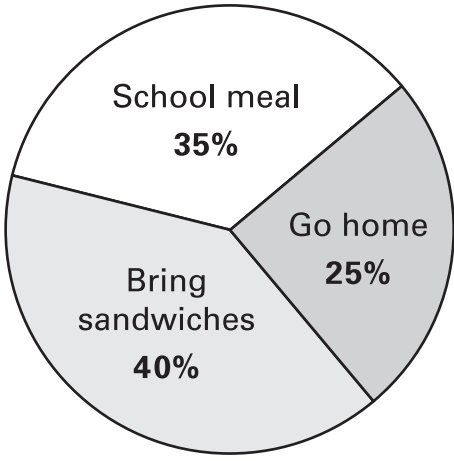
12  
2 marks



13



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.

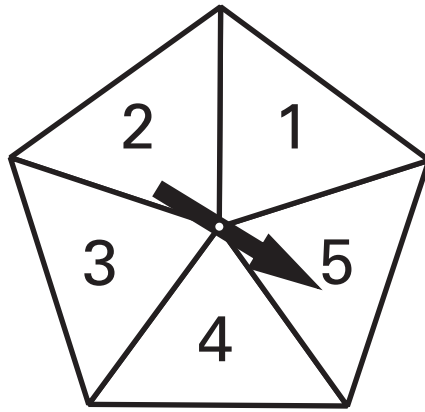
✍️

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?

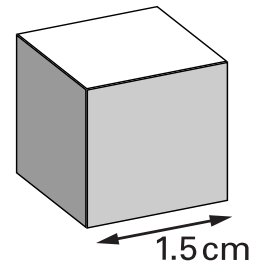


Show your **method**.  
You may get a mark.

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 cm<sup>3</sup>**.

How many small cubes does he use?



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

16  
2 marks

16

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