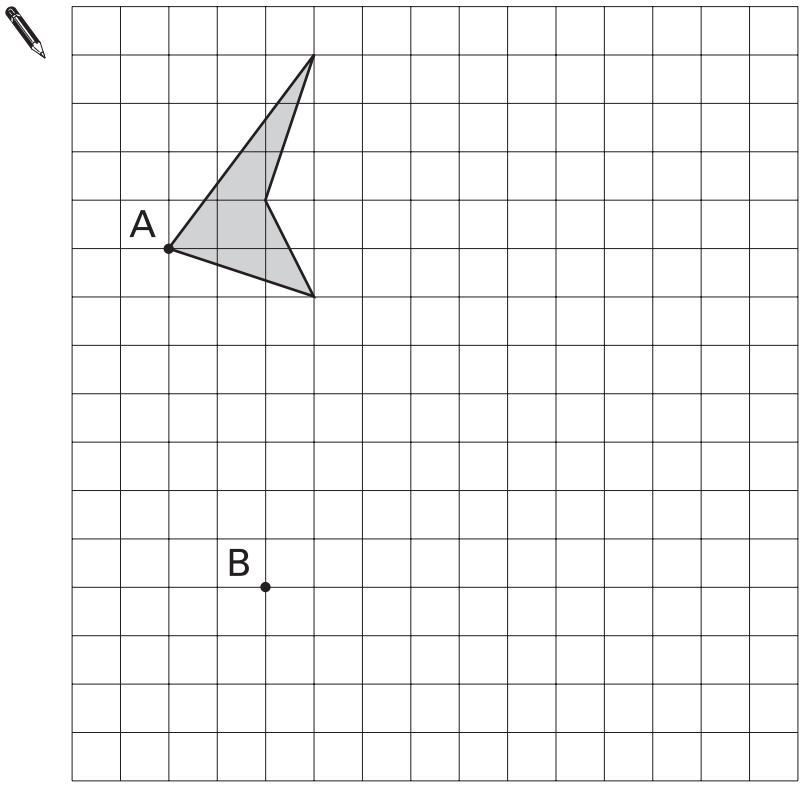
3 The shaded shape is translated from **A** to **B** and **enlarged** by a **scale factor of 2**

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

Use a ruler.

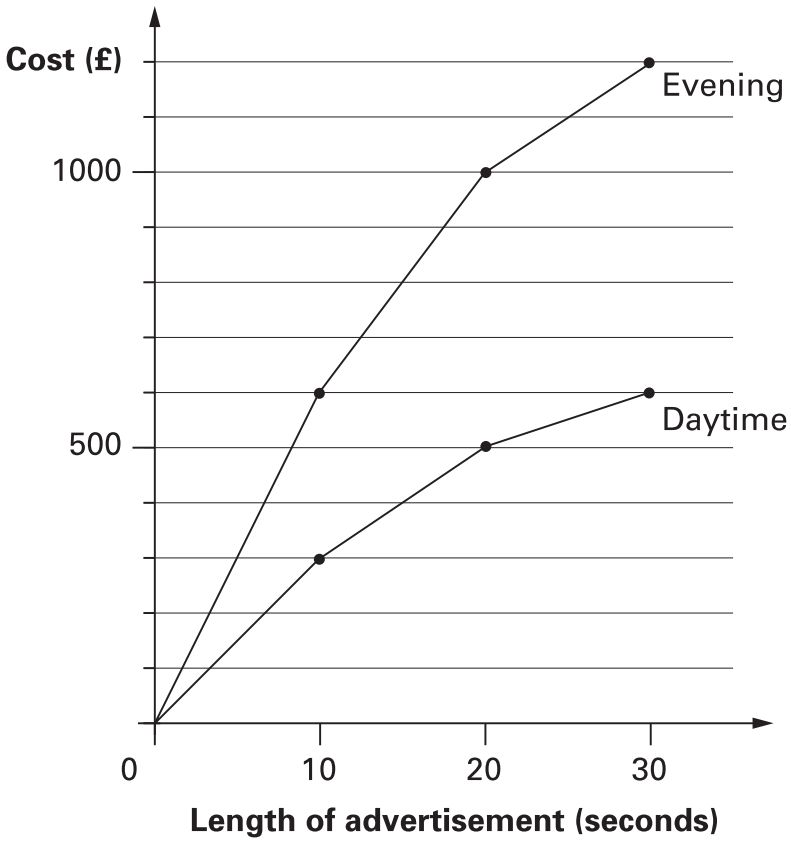


3

2 marks

Total

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**.

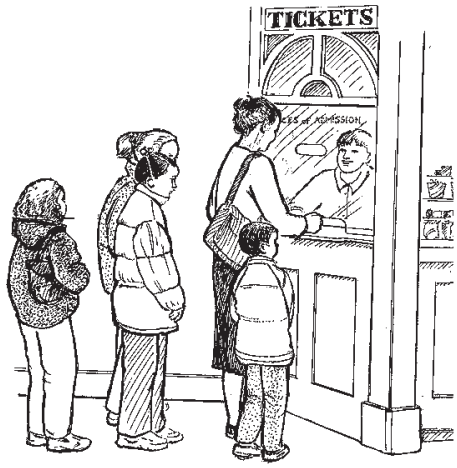
The total cost was **£1200**

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.

£

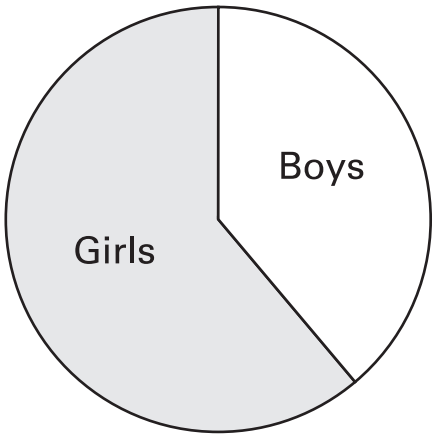
5

2 marks

Total

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.

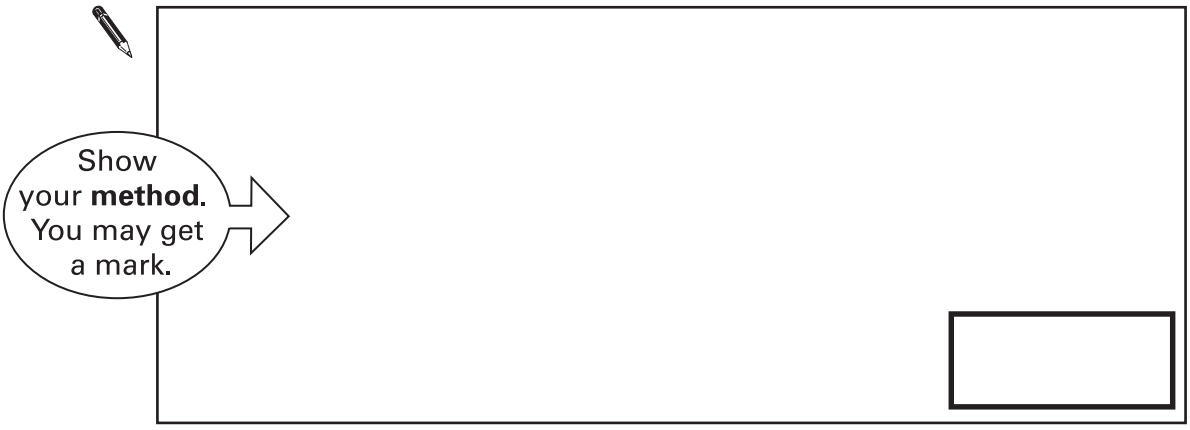
Show your **method**. You may get a mark.

° 6

2 marks

7 What is the value of u in this equation?

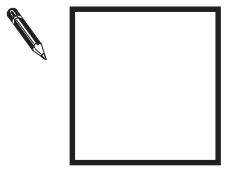
$$5u - 10 = u + 46$$



7

2 marks

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

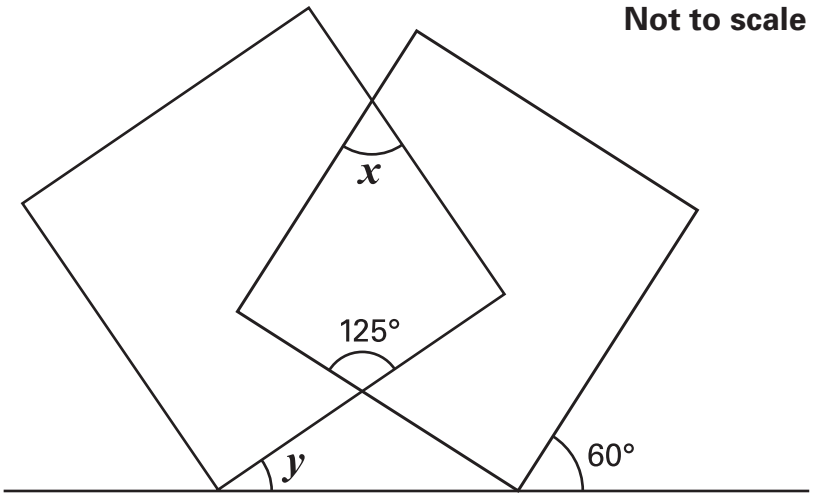


8

1 mark

Total

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

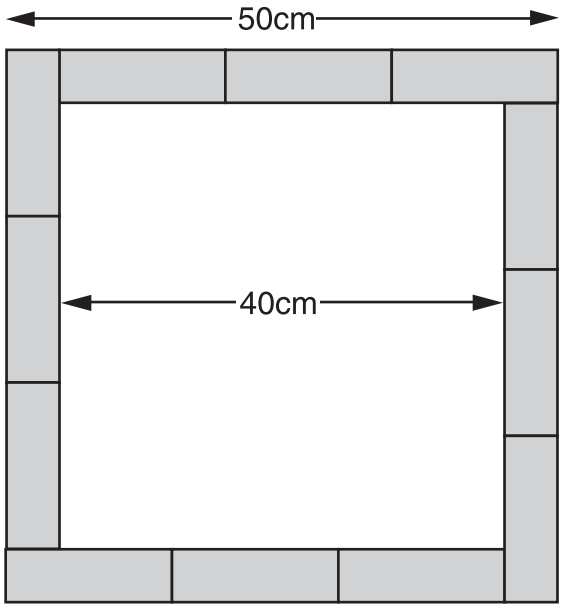
1 mark

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.

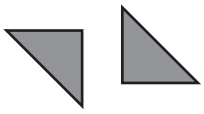
cm²

10

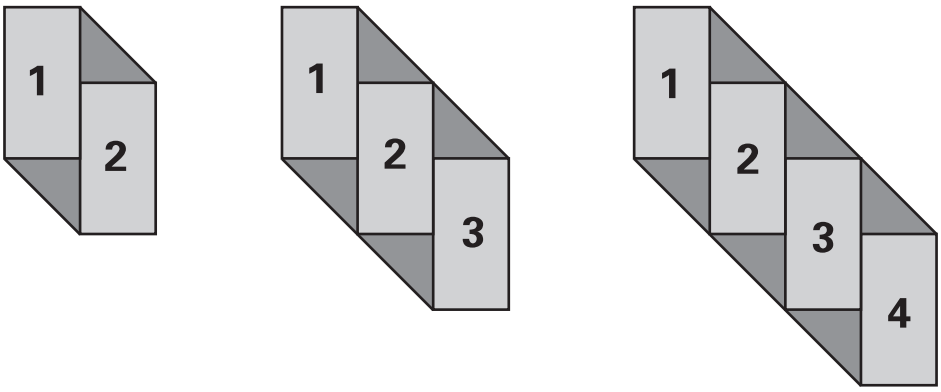
2 marks

Total

11 Here is the start of a sequence of shapes using

rectangles  and triangles 

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.

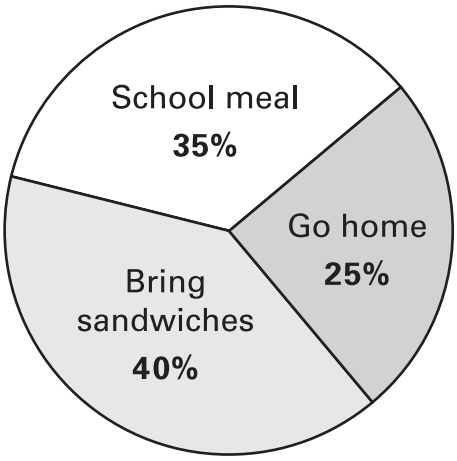
12

2 marks

Total

13

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



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

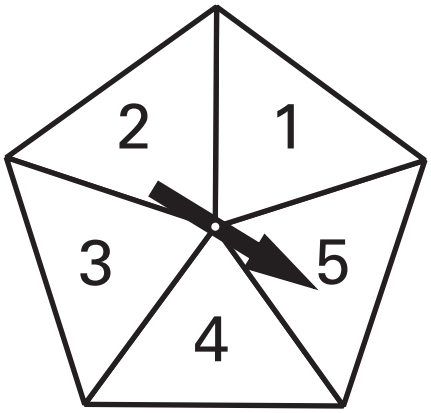
How many **go home** for lunch?

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

Total

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

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

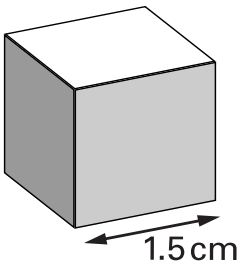
What are the two numbers?

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^3**.

How many small cubes does he use?

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

16

2 marks

Total

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