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.
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.

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

The total cost was £1200

How long was the advertisement in seconds?
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.

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

<table>
<thead>
<tr>
<th></th>
<th>Number in class</th>
<th>Size of angle on pie chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>14</td>
<td>144°</td>
</tr>
<tr>
<td>Girls</td>
<td>21</td>
<td>216°</td>
</tr>
</tbody>
</table>

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.
7. What is the value of $u$ in this equation?

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

Show your method. You may get a mark.

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

$x = \square$

$y = \square$

1 mark

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

10. Calculate the area of one of the rectangles.

Show your method. You may get a mark.
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?

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?
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.
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?
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.

..................................................................................
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.

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.