Test B

Calculator allowed

First name

Last name

School

DfE no.

For marker’s use only

<table>
<thead>
<tr>
<th>Page</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>
These three children appear in some of the questions in this test.

Holly  Dev  Joe
Instructions

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

Work as quickly and as carefully as you can.

You have 45 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 have an answer box like this:

Show your method

For these questions you may get a mark for showing your method.
1. Circle the number closest to 100

70  120  85  111  909

1 mark

2. Here are six number cards.

10  20  30  30  40  50

Use all the number cards to complete the two sums below.

\[ \square + \square = \square \]

\[ \square + \square = \square \]

2 marks
These diagrams are made from regular octagons.

Draw the line of symmetry on each diagram.

Use a ruler.
For each of these pairs, tick (✓) the calculation that has the **greater** answer.

One has been done for you.

- 200 × 4 ✓ 250 × 3
- 34 × 21 31 × 24
- 444 + 777 222 + 888
- 828 – 332 939 – 445
- 888 ÷ 4 777 ÷ 3
Five children grow pumpkins.

This bar chart shows how heavy their pumpkins are.

How much heavier is Joe’s pumpkin than Holly’s?

\[
\text{kg}
\]

What is the mass of Dev’s pumpkin to the nearest kilogram?

\[
\text{kg}
\]
Tickets for a school play cost £2.75 each.

Dev sold 23 tickets.

How much ticket money did Dev collect?

Holly collected £77 altogether from selling tickets.

How many tickets did she sell?
Here are two model boats on a centimetre scale.

How far apart are the boats?

$\text{cm}$  

What is the **difference** in the lengths of the two boats?

$\text{cm}$
8. Here is part of a number line.

Write in the missing fraction.

\[ \frac{1}{2} \]

9. This diagram has four angles marked A, B, C and D.

Write the letters of the angles that are **obtuse** angles.

A, B, C, D
Joe asked the children in his class which flavours of ice-cream they like.

He recorded the results in a Venn diagram.

How many children like chocolate ice-cream?

How many children do not like vanilla ice-cream?
11. This diagram shows a shaded rectangle surrounded by squares.

What fraction of the diagram is shaded?

12. Joe goes skating every Saturday.

He went skating on Saturday January 1st.

Altogether, how many times did Joe go skating in January?
Dev has a bag of 50p coins and Holly has a bag of 20p coins.

Both bags have the same amount of money in.

There are **thirty** 50p coins in Dev’s bag.

**How many 20p coins are there in Holly’s bag?**
Here are five shapes made from equilateral triangles.

Write the letter of the shape that is a **rhombus**.

Write the letter of the shape that has only one pair of parallel sides.
The numbers in this sequence increase by 3 each time.

3  6  9  12  . . .

The numbers in this sequence increase by 5 each time.

5 10 15 20  . . .

Both sequences continue.

Write a number greater than 100 which will be in both sequences.

Show your method
Here are four masses.

2 kilograms
1 tonne
800 grams
\(\frac{1}{2}\) kilogram

Write the masses in order, starting with the lightest.

lightest

Two 2-digit numbers multiply to make 176

Write the two missing numbers.

\(\begin{array}{c}
\quad \\
\end{array}\) \(\times\) \(\begin{array}{c}
\quad \\
\end{array}\) = 176
Dev says,

“When you halve any number that ends in 8 the answer always ends in 4’.

Is he correct? Circle Yes or No.

Yes / No

Explain how you know.
Joe has some triangular tiles and some quarter-circle tiles.

He uses 2 triangles and 7 quarter-circles to make this ‘flying bird’ design.

Joe makes some more of these ‘flying bird’ designs.

He uses 56 quarter-circles.

How many **triangles** does he use?

Show your method
Here is part of the morning train timetable from Perth to Midland in Australia.

<table>
<thead>
<tr>
<th></th>
<th>07:11</th>
<th>07:20</th>
<th>07:27</th>
<th>07:35</th>
<th>07:43</th>
<th>07:55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maylands</td>
<td>–</td>
<td>07:28</td>
<td>07:33</td>
<td>07:43</td>
<td>07:49</td>
<td>08:03</td>
</tr>
<tr>
<td>Ashfield</td>
<td>–</td>
<td>–</td>
<td>07:38</td>
<td>–</td>
<td>07:54</td>
<td>–</td>
</tr>
<tr>
<td>Success Hill</td>
<td>07:25</td>
<td>–</td>
<td>07:41</td>
<td>–</td>
<td>07:57</td>
<td>–</td>
</tr>
<tr>
<td>Midland</td>
<td>07:32</td>
<td>07:41</td>
<td>07:48</td>
<td>07:56</td>
<td>08:05</td>
<td>08:16</td>
</tr>
</tbody>
</table>

What time is the first train from Maylands that stops at Success Hill?

Mr Evans is in Perth and wants to be in Midland by 08:00

What is the time of the latest train he can take from Perth?
A bag contains 50 green counters and 40 white counters.
The green counters are numbered 1 to 50
The white counters are numbered 1 to 40
Holly picks one counter without looking.

Holly says,

'A counter with the number 35 on it is more likely to be picked than a counter with the number 45 on it'.

Is Holly correct? Circle Yes or No.

Yes / No

Explain how you know.
Here is part of a number line.

It is divided into equal sections.

Write the letter of the section where each of these numbers belongs.

The number 99 has been done for you.

<table>
<thead>
<tr>
<th>number</th>
<th>section</th>
</tr>
</thead>
<tbody>
<tr>
<td>99</td>
<td>J</td>
</tr>
<tr>
<td>29</td>
<td></td>
</tr>
<tr>
<td>-83</td>
<td></td>
</tr>
<tr>
<td>-15</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
</tr>
</tbody>
</table>
Here is a square grid.

Two sides of a kite are drawn on the grid.

Complete the kite by drawing the two missing sides.

Use a ruler.
All the children in Class 6 vote to pick a class captain.

The choice is Holly or Dev or Joe.

Dev gets 10% of the votes.

Joe gets twice as many votes as Holly.

What percentage of the votes does the winner get?
Here are some number cards.

Joe picks two even numbers.
Dev picks two odd numbers.

Joe gives one of his cards to Dev.
Dev gives one of his cards to Joe.

Joe says,

‘Now my cards are both square numbers’.

Dev says,

‘Now my cards are both multiples of 5’.

What numbers did they each start with?

Joe started with □□ and □□

Dev started with □□ and □□

\[ \text{25} \]
A 5p coin has a diameter of 1.8 centimetres.

Holly makes a straight line of 5p coins worth £10

How long is Holly’s line?
Give your answer in metres.

Show your method
End of test