Mathematics tests

Paper 1

Calculator not allowed

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>
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<tr>
<td>9</td>
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<td>13</td>
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<td>17</td>
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<td>19</td>
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<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Total marks</td>
<td></td>
</tr>
</tbody>
</table>
Instructions

You may not 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 working

For these questions you may get a mark for showing your working.
This grid has a pattern of four circles on it.

Write the letter of the grid below that has the same pattern as the grid above.

A  B  C
D  E
The numbers in this sequence increase by the same amount each time.

Write the two missing numbers.

\[610 \quad 650 \quad 690\]
A shop sells T-shirts.

This chart shows how many T-shirts were sold in a month.

<table>
<thead>
<tr>
<th>Colour</th>
<th>T-shirts sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>blue</td>
<td>6</td>
</tr>
<tr>
<td>red</td>
<td>5</td>
</tr>
<tr>
<td>white</td>
<td>7</td>
</tr>
<tr>
<td>orange</td>
<td>3</td>
</tr>
</tbody>
</table>

= 100 T-shirts

Write the colours of the T-shirts that sold **more than 400** in the month.

3a

How many red T-shirts and orange T-shirts were sold **altogether**?

3b

How many **more** white than blue T-shirts were sold?

3c
Seb has to see the doctor at 10:05 am.

He gets to the doctor’s surgery at 9:52 am.

How many minutes **early** is he?

He leaves the doctor’s surgery at 10:25 am.

He gets to school 45 minutes later.

What time does he arrive at school?
Write the **three** missing numbers in this multiplication grid.

<table>
<thead>
<tr>
<th>×</th>
<th>8</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>15</td>
<td>21</td>
</tr>
</tbody>
</table>

2 marks
Each of these diagrams is divided into equal parts. Some of the parts are shaded.

Write the letters of all the diagrams that have exactly $\frac{1}{2}$ shaded.

Which of the diagrams has exactly $\frac{1}{3}$ shaded?

Total out of 4 ______
7  Liam buys two apples.

He pays with a £1 coin and gets 64p change.

How much does one apple cost?

Show your working

8  In this shape, one of the angles is obtuse.

Tick (✓) the obtuse angle.
Here is a diagram for sorting numbers.

Write each number in its correct place on the diagram.

2  20  201  2000

two-digit numbers
multiples of 5
three-digit numbers

9i
9ii

2 marks

Total out of 5 _____
Write the missing numbers to make these calculations correct.

10a

\[ 200 \times \underline{\phantom{100}} - 200 = 200 \]

1 mark

10b

\[ (100 - \underline{\phantom{100}}) \times 100 = 100 \]

1 mark
Seb saved up for a new skateboard that cost £40.

The table shows how much money he saved each week.

<table>
<thead>
<tr>
<th>Week number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount saved</td>
<td>£5</td>
<td>£4</td>
<td>£2</td>
<td>£4</td>
<td>£3</td>
<td>£4</td>
<td>£6</td>
<td>£4</td>
<td>£3</td>
<td>£5</td>
</tr>
</tbody>
</table>

In which week did Seb reach half the amount he needed for the skateboard?

11a

If Seb had saved an extra £1 each week, in which week would he have reached his target of £40?

11b

Total out of 4 ______
This weather chart shows the highest and lowest temperatures in a town on five days in March.

<table>
<thead>
<tr>
<th>Temperature °C</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>highest</strong></td>
<td><strong>lowest</strong></td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>+7</td>
<td>0</td>
</tr>
<tr>
<td>Tuesday</td>
<td>+7</td>
<td>–2</td>
</tr>
<tr>
<td>Wednesday</td>
<td>+8</td>
<td>–2</td>
</tr>
<tr>
<td>Thursday</td>
<td>+9</td>
<td>+1</td>
</tr>
<tr>
<td>Friday</td>
<td>+4</td>
<td>–5</td>
</tr>
</tbody>
</table>

Which day has the greatest difference between the highest and the lowest temperatures?

What is the difference between the lowest temperatures on Thursday and Friday?
Chen and Megan each buy a sandwich.

Chen gets 5p change from £2

Megan gets £2.25 change from £5

How much more does Megan pay than Chen?

Show your working
Here is a shape on a grid.

For each statement, put a tick (✔) if it is true. Put a cross (✗) if it is not true.

The shape is a quadrilateral. ✔

The shape has 2 lines of symmetry. ✗

The shape is a parallelogram. ✗

The shape has one right angle. ✗
This shape is made out of four identical curves.

The perimeter of the shape is 28 centimetres.

A new shape is made out of curves of the same size.

What is the perimeter of the new shape?

Show your working
Calculate $465 \times 52$
17 Write these numbers in order, starting with the smallest.

8.12  1.8  8.118  8.2  1.28

smallest

1 mark

18 In this diagram, the number in each box is the sum of the two numbers below it.

Write the missing numbers.

1 mark

1 mark

Total out of 5 _____
Liam did a survey of 55 people to see how many were left-handed.

Liam says,

‘The results show that exactly 10% of the people in the survey are left-handed.’

Explain why Liam cannot be correct.
Chen is cooking some pasta.

The recipe says he needs 350 grams of pasta for 4 people.

How many kilograms of pasta does he need for 12 people?

Show your working

kg

2 marks
Chen is thinking of three numbers.

He says,

‘The range is 5
The mode is 2’

What are his three numbers?

\[\square \quad \square \quad \square\]

\[1 \text{ mark}\]

\[22\]

\(n\) stands for a whole number.

\(2n\) is greater than 30
\(5n\) is less than 100

Write all the numbers that \(n\) stands for.

\[\square \quad \square \quad \square\]

\[2 \text{ marks}\]
[END OF TEST]

Please do not write on this page.