Year 7 mathematics test

Paper 1
Calculator not allowed

Please read this page, but do not open your booklet until your teacher tells you to start. Write your name and the name of your school in the spaces below.

First name ____________________________
Last name ____________________________
School ________________________________

Remember

- The test is 45 minutes long.
- You must not use a calculator for any question in this test.
- You will need: pen, pencil, rubber, ruler, tracing paper and a mirror (optional).
- This test starts with easier questions.
- Try to answer all the questions.
- Write all your answers and working on the test paper – do not use any rough paper. Marks may be awarded for working.
- Check your work carefully.
- Ask your teacher if you are not sure what to do.

For marker’s use only

Total marks
Instructions

Answers

This means write down your answer or show your working and write down your answer.

Calculators

You must not use a calculator to answer any question in this test.
Draw lines to join every pair of numbers that **add to make 100**

One is done for you.
This table shows the fastest speeds, in mph, that different types of vehicles are allowed to travel.

<table>
<thead>
<tr>
<th>Type of vehicle</th>
<th>Built-up area</th>
<th>Single carriageway</th>
<th>Dual carriageway</th>
<th>Motorway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>30</td>
<td>60</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Car towing a caravan</td>
<td>30</td>
<td>50</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Bus or coach</td>
<td>30</td>
<td>50</td>
<td>60</td>
<td>70</td>
</tr>
</tbody>
</table>

(a) A car is towing a **caravan**.

What is the fastest speed it is allowed to travel on a **single carriageway**?

.................... mph

(b) A **car** and a **coach** are travelling on a **dual carriageway**.

How much faster is the car allowed to travel?

.................... mph
3 The diagram shows part of a number grid.
Fill in the missing numbers.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>852</td>
<td>853</td>
<td></td>
</tr>
<tr>
<td>842</td>
<td>844</td>
<td></td>
</tr>
<tr>
<td>833</td>
<td>834</td>
<td></td>
</tr>
</tbody>
</table>

4 (a) The numbers on these cards should have a **total of 50**
Fill in the missing number.

| 14 | 12 |   |

(b) The numbers on these cards should have a **total of 50**
What could the numbers be?
Fill in the missing numbers.

|   | 16 |   |
Look at the shape drawn on the square grid.

For each statement below, tick (√) True or False.

- The shape has exactly 2 right angles.
- The shape has 2 pairs of parallel lines.
- The shape has one line of symmetry.
- The shape is a quadrilateral.

2 marks
6 (a) Fill in the missing numbers in these number chains.

Rule: **Add 3** each time.

\[1 \rightarrow 4 \rightarrow 7 \rightarrow 10 \rightarrow \_ \rightarrow \_ \]

(b) Here is a different number chain.

What could the rule be?

Fill in the rule. Then use the rule to write in the missing number.

Rule: **Each time.**

\[20 \rightarrow 16 \rightarrow 12 \rightarrow 8 \rightarrow 4 \rightarrow \_ \]
A shape is cut out of a piece of card, leaving a hole.

Which shape below will fit the hole exactly?
Put a ring round the correct shape.
Anna and Jack did a survey together. They asked people ‘What is your favourite sport?’

Anna drew a bar chart to show the results.

Jack started to draw a pictogram to show the same results.

He drew the result for football.

Draw the results for tennis and cricket.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>football</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tennis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cricket</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2 tins balance 1 bottle.

2 bottles balance 1 box.

How many tins make each of these balance?

? = ............ tins

? = ............ tins

1 mark
1 mark
Here is part of Nina’s school timetable for Monday.

(a) For how many minutes does Nina’s history lesson last?

(b) For how many minutes does Nina’s break last?

(c) Nina starts school at 9am. She finishes school at 4pm.

How many hours is Nina’s school day?
11 Fill in the missing numbers.

\[
\begin{array}{c}
3.7 + 2.5 = \\
2.9 + = 4
\end{array}
\]

1 mark

1 mark

12 Shade this spinner so that there is a 50% chance that the arrow will land on shaded.
A class is collecting money for charity.

They want a total of \( \textbf{£1000} \)

By the end of April, they have collected \( \textbf{£400} \)

(a) What percentage of their total have they collected by the end of April?

\[ \text{\( \ldots \ldots \ldots \ldots \ldots \ldots \% \)} \]

(b) By the end of May, they have collected \( 85\% \) of their total.

Shade more of the diagram to show this.
The diagram shows a net that folds to make a box.

There are two different nets shown below.

Each net folds to make a box.

The base of each box is labelled.

For each box, label the face that will be the lid.
I am thinking of two numbers.

When I add my numbers, the answer is 11

When I multiply my numbers, the answer is 24

What are my numbers?

............. and .............

1 mark

Look at the pairs of numbers.

For each pair, put a ring round the number that is bigger.

The first one is done for you.

1001

999

3

-5

4

3.9

2.72

2.8

1 mark
The numbers in the oval show an add 11 pattern.

(a) What pattern do the numbers in this oval show?

(b) Draw an oval to show one add 10 pattern.
18. Fill in the missing fraction.

\[
\frac{3}{4} - \square = \frac{1}{2}
\]

1 mark

19. This is a right-angled triangular tile.

How many of these triangular tiles fit together to make a 4cm by 4cm square?
Peter took part in a long jump competition.
He had three jumps.

The arrows on the scale show how far he jumped each time.

(a) How far did Peter jump on his 2nd jump?

(b) Peter jumped further on his 3rd jump than on his 1st jump.
How much further?

Write your answer in metres.

Now write your answer in centimetres.
The graph shows how the price of a chocolate bar has changed.

Fill in the gaps below.

Between 1992 and 2002, the price of the chocolate bar increased by \( \ldots \) p

In 1992, the price of the chocolate bar was 6 times as much as in \( \ldots \)

The smallest increase in price was in the five years between \( \ldots \) and \( \ldots \)