Year 7 mathematics test

Paper 2
Calculator 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 may use a calculator for any question in this test.
▪ You will need: pen, pencil, rubber, ruler, tracing paper and mirror (optional) and a calculator.
▪ 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

PrimaryTools.co.uk
Instructions

Answers

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

Calculators

You may use a calculator to answer any question in this test.
The table shows information about pupils in a class.

<table>
<thead>
<tr>
<th></th>
<th>Number of boys</th>
<th>Number of girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-handed</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Left-handed</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

(a) Altogether, how many pupils in the class are **left-handed**?

(b) A **right-handed girl** leaves the class.

A **left-handed boy** joins the class.

Fill in the table for the class now.
2. Draw in and shade 3 triangles so that the dashed line is a line of symmetry (a mirror line).

3. Rachel likes going to the theatre. Each time she goes she pays for one ticket and one programme.

<table>
<thead>
<tr>
<th>Ticket</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>£18.45</td>
<td>£2.50</td>
</tr>
</tbody>
</table>

In one year Rachel goes to the theatre 13 times.

Altogether, how much does she pay?

Show your working.

£
This list shows the most popular names for boys born in 1904.

1st William
2nd John
3rd George
4th Thomas
5th Arthur

Use the clues below to find the most popular names for boys born in 1924.

- George stayed in the same position.
- William and Thomas both went down by one place.
- The only new name in the list was James, which was less popular than John.
The arrow by this thermometer shows a temperature of 20°C

(a) Draw an arrow by the thermometer to show a temperature of –8°C

(b) The temperature was –10°C
It went up by 15°C
What is the new temperature?

(c) Write these temperatures in order, starting with the coldest.

| –3°C | 0°C | 6°C | –9°C |

coldest warmest
Some people are climbing down walls. The diagram shows their positions.

(a) Write a fraction in each box to show about how far down the wall each person is. The first one is done for you.

\[ \frac{1}{4} \]

(b) A different person is about \( \frac{1}{3} \) of the way down the wall. Draw a line on the wall to show the person’s position.
Which value completes each sentence? Tick (√) the correct box.

The first one is done for you.

The **length** of a **banana** is about…
- [ ] 2 cm
- [√] 20 cm
- [ ] 200 cm
- [ ] 2000 cm

A **can of drink** holds about…
- [ ] 0.3 litres
- [ ] 3 litres
- [ ] 30 litres
- [ ] 300 litres

The **weight** of an **apple** is about…
- [ ] 1 gram
- [ ] 10 grams
- [ ] 100 grams
- [ ] 1000 grams

1 mark

1 mark
Here is a triangle.

(a) Measure the length of the longest side.

(b) What is the perimeter of this triangle?
Alan went on holiday to Africa.

The pictogram shows how many animals he saw.

**Key:** ○ represents 20 animals

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lion</td>
<td></td>
</tr>
<tr>
<td>Zebra</td>
<td></td>
</tr>
<tr>
<td>Elephant</td>
<td></td>
</tr>
</tbody>
</table>

(a) How many lions did Alan see?

(b) Alan saw more zebras than elephants.

How many more?
10 (a) Kate is using her computer to print a photo.

The black bar shows how much of the photo is printed so far.

What percentage of the photo is printed so far?

........................ %

(b) Each photo takes 20 seconds to print.

How many minutes will it take to print 15 photos?

Show your working.

........................ minutes
11 Look at this shape.

Complete the sentences.

The shape is a square so the sides must be ........................................... 1 mark

The shape is a square so the angles must be ........................................... 1 mark

12 This shape is drawn on a centimetre square grid.

Estimate the area of the shape.

............... cm² 1 mark
I join **three cubes** in a line to make this shape.

Then I join **one more cube** to make an **L-shape**.

Draw the L-shape on the paper below.
14 (a) Gill puts **4 counters** in a bag.

3 counters are black. 1 counter is white.

Gill is going to take a counter out of the bag without looking.

What is the **probability** that the counter will be **white**?

Put a ring round the correct answer.

\[
\frac{1}{4} \quad \frac{1}{3} \quad \frac{1}{2} \quad \frac{1}{1}
\]

(b) Sam puts **20 counters** in a different bag.

She is going to take a counter out of the bag without looking.

The **probability** that the counter will be red is \(\frac{1}{2}\)

**How many red** counters are in her bag?
Part of a square grid is shaded.

(a) **What fraction** of the grid is shaded?

The diagram shows the same grid after a **quarter turn clockwise**.

(b) Shade this diagram to show the grid after another **quarter turn clockwise**.
The pie chart shows information about children who go to a nursery school.

Altogether, **80 children** go to the nursery school.

(a) **How many** of the 80 children are **two** years old?

(b) **How many** of the 80 children are **four** years old?
17 (a) I think of a number. I call my number \( n \)

Then I add 5 to my number.

The answer is 8

What was my number?

\[ n = \ldots \ldots \]

1 mark

(b) Solve this equation to find the value of \( m \)

\[ m - 2 = 8 \]

\[ m = \ldots \ldots \]

1 mark
The diagram shows the volume of water in two measuring jugs.

Which jug contains more water?
Tick (✓) A or B.

A  B

How much more does it contain?
Show your working.
19  The 4th square number is 16

What is the 5th square number?

· 

1 mark

20  A number line shows all the whole numbers from 1 to 100

Numbers that are next to each other on this line are called consecutive numbers.

Sanjay says:

‘I can choose any two consecutive numbers.

When I add them the answer will always be an even number’.

Is Sanjay correct? Tick (✓) Yes or No.

☐ Yes ☐ No

Explain how you know.