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 a 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

<table>
<thead>
<tr>
<th></th>
<th>Total marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borderline check</td>
<td></td>
</tr>
</tbody>
</table>
**Instructions**

<table>
<thead>
<tr>
<th><strong>Answers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>This means write down your answer or show your working and write down your answer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Calculators</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>You <strong>may</strong> use a calculator to answer any question in this test.</td>
</tr>
</tbody>
</table>
Look at the table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Male/Female</th>
<th>Age (years)</th>
<th>Height (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice</td>
<td>female</td>
<td>36</td>
<td>155</td>
</tr>
<tr>
<td>Frank</td>
<td>male</td>
<td>54</td>
<td>175</td>
</tr>
<tr>
<td>Gina</td>
<td>female</td>
<td>42</td>
<td>168</td>
</tr>
<tr>
<td>Milly</td>
<td>female</td>
<td>16</td>
<td>162</td>
</tr>
<tr>
<td>Rani</td>
<td>male</td>
<td>24</td>
<td>178</td>
</tr>
</tbody>
</table>

Use the table to answer the questions.

(a) What is the name of the oldest person?

(b) What is the height of the tallest female?
A rectangle has **two** lines of symmetry.

Now, draw the two lines of symmetry on this rectangle.
3 (a) Tick (√) the correct box to show about how long a car is.

- 4 millimetres
- 4 centimetres
- 4 metres
- 4 kilometres

1 mark

(b) Tick (√) the correct box to show the temperature in a freezer.

- 180°C
- −18°C
- 18°C
- 1.8°C

1 mark

(c) Tick (√) the correct box to show about how much a cat weighs.

- 3 grams
- 30 kilograms
- 30 grams
- 3 kilograms

1 mark
Tim, his mother and his grandmother all have their birthday on the same day.

(a) When Tim was born, how old was Tim's grandmother?

__________________________ years old

1 mark

(b) When Tim's mother is 60 years old, how old will Tim be?

__________________________ years old

1 mark
The time on a digital clock is **2:45**

What time will the digital clock show **one and a half hours** later?

Tick (✓) the correct time below.

- 4:05
- 3:55
- 4:15
- 4:25
- 3:45
Sara drew this pictogram to show the average number of hours animals sleep each day.

Key: ⬆️ stands for 2 hours

<table>
<thead>
<tr>
<th>Animal</th>
<th>Pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bat</td>
<td>⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️</td>
</tr>
<tr>
<td>Gorilla</td>
<td>⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️</td>
</tr>
<tr>
<td>Horse</td>
<td>⬆️⬆️⬆️</td>
</tr>
<tr>
<td>Human</td>
<td>⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️</td>
</tr>
<tr>
<td>Mouse</td>
<td>⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️⬆️</td>
</tr>
</tbody>
</table>

(a) Which animal sleeps for a shorter time each day than a human?

(b) A bat sleeps for longer each day than a mouse.
How many hours longer?

(c) Now Dave draws another pictogram to show the same information.
Here is Dave's key:

Key: ⬆️ stands for 3 hours

How many circles show the number of hours that a gorilla sleeps each day?
(a) The first **odd** number is 1

What is the **sixth** odd number?

1 mark

(b) The first **five** odd numbers add up to 25

What do the first **six** odd numbers add up to?

1 mark
What number does the arrow show on each number line below?

1. 100 to 200
   - Number line
   - Arrow
   - Question mark

2. 1 to 2
   - Number line
   - Arrow
   - Question mark

3. 0.1 to 0.2
   - Number line
   - Arrow
   - Question mark

1 mark for each correct answer.
Here is a grid with some numbers shaded.

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

The grid continues.

Will the number **35** be shaded?

- [ ] Yes
- [ ] No

Explain your answer.
Joe makes different shapes using four tiles each time.
The square grid shows the different shapes he makes.

(a) Which shape is a square?
Write its letter.

(b) Which shape is not a quadrilateral?
Write its letter.

(c) Joe says:
The shape with the biggest area is shape C.
Is Joe correct?

Yes  No

Explain your answer.
11 (a) In the number 4378, the figure 7 represents 7 tens.

What does the figure 3 represent?

____________________

What does the figure 4 represent?

____________________

1 mark

(b) Write in figures the number twenty thousand and twenty.

____________________

1 mark
Anna, Ben and Carly are running a race.

Complete the table to show the **different orders** in which they could finish.

One order is done for you.

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

2 marks
13 (a) Half of this square is shaded.

What percentage of the square is shaded?

(b) What percentage of this square is shaded?

%
(a) Write numbers to complete the table below.

<table>
<thead>
<tr>
<th></th>
<th>Number of faces that are rectangles</th>
<th>Number of faces that are triangles</th>
</tr>
</thead>
<tbody>
<tr>
<td>cuboid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>triangular prism</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) A different shape has five faces.

Four of the faces are triangles. One face is a square.

Write the name of this shape.
The equation shows how much you pay to hire a car.

\[ N \times 20 = T \]

\( N \) stands for the number of days

\( T \) stands for the total you pay in £

(a) Leena hires the car for 10 days.

How much must she pay?

\[ \underline{\text{£}} \]

1 mark

(b) Later, Tom pays £280 to hire the car.

For how many days does he hire the car?

\[ \underline{\text{days}} \]

1 mark
I have ten number cards, numbered 1 to 10
I am going to take a card at random.

Match each sentence below to a correct description of its probability. The first one is done for you.

- The number on the card will be 20
  - Certain

- The number on the card will be an odd number
  - Likely

- The number on the card will be greater than 3
  - Even chance

- The number on the card will be less than 12
  - Unlikely

- The number on the card will be a multiple of 5
  - Impossible

2 marks
The diagram shows what is above and below sea level.

(a) What is about **50m lower** than the **bird**?

(b) An **octopus** is at about **–40m**.

About **how many metres higher** is the **diver** than the octopus?
The pattern below is not finished.

Draw one more triangle so that the pattern looks the same when it is rotated through one or more right angles.
The tables below show the number of days in each month in the year 2006.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>31</td>
</tr>
<tr>
<td>February</td>
<td>28</td>
</tr>
<tr>
<td>March</td>
<td>31</td>
</tr>
<tr>
<td>April</td>
<td>30</td>
</tr>
<tr>
<td>May</td>
<td>31</td>
</tr>
<tr>
<td>June</td>
<td>30</td>
</tr>
<tr>
<td>July</td>
<td>31</td>
</tr>
<tr>
<td>August</td>
<td>31</td>
</tr>
<tr>
<td>September</td>
<td>30</td>
</tr>
<tr>
<td>October</td>
<td>31</td>
</tr>
<tr>
<td>November</td>
<td>30</td>
</tr>
<tr>
<td>December</td>
<td>31</td>
</tr>
</tbody>
</table>

(a) For the statement below, tick (✓) True or False.

The **mode** of the number of days in a month is **31**

- [ ] True
- [ ] False

Explain your answer.

(b) There are **more** days in the **second six months of the year** than in the first six months.

How many more?
END OF TEST
END OF TEST