### FORM 1 MATHEMATICS Non Calculator Paper

<table>
<thead>
<tr>
<th>Question</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>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Instructions to Candidates

- Answer all questions.
- This paper carries a total of 25 marks.
- Calculators and protractors are NOT ALLOWED.
1. Work out the sum of: 27.86 and 9.05

_________________

(1 mark)

2. Write in order of size, **smallest first**: one million, \(10^4\), one hundred thousand.

_________________

(2 marks)

3. Mike has forty-nine boxes each containing 51 cards.
Work out the total number of cards.

_________________

(2 marks)

4. a) Write down the number **nearest** to 4.

\[0.044 \quad 0.404 \quad 4.004 \quad 4.040 \quad 4.400\]

b) Work out: \(-2 - 3 = \)

_________________

(2 marks)

c) At Peppi’s farm 22 cows have spots.
At Leli’s farm 50% of his 40 cows have spots.
Marica says that there are more cows with spots in Leli’s farm.
Is she right? Explain.

Yes / No, because ______________________________________________________

(5 marks)
5. a) (i) List all the square numbers between 0 and 30. ___ ___ ___ ___ ___

(ii) Anita thinks of an even square number between 0 and 30. What can her number be?

______ or ______

b) Fill in with the smallest number possible:

30 + [ ] = a multiple of 9

c) Which of the following is a prime number?

12, 15, 23, 28, 33, 39

______

(4 marks)

6. Fill in:

The size of angle $p$ is about _______________.

45°  85°  100°  200°

(1 mark)

7. Calculate the value of the angle marked $w$.

$w = ______^\circ$

(3 marks)
8. a) Express 3200 m in km.

b) Henry made a scale model of a car using a scale of 1:20.

If the model is 25 cm long, how long is the real car?

9. Complete the sequence:

____, −1, 1, 3, 5, _____

10. a) Simplify: \( \frac{2}{7} + \frac{4}{7} \)

b) Work out:

\( \frac{2}{5} \) of €25

€ ________

END OF PAPER
1 a) Complete the shape to make it
   \textit{symmetrical} about the broken line.

\begin{center}
\includegraphics[width=0.3\textwidth]{shape}
\end{center}

b) Fill in:
   This triangle has \textit{rotational} symmetry of order ________.

\begin{center}
\includegraphics[width=0.2\textwidth]{triangle}
\end{center}

c) Which of the following quadrilaterals does \textbf{not} have a line of symmetry?

\begin{itemize}
  \item KITE
  \item PARALLELOGRAM
  \item RECTANGLE
  \item CIRCLE
\end{itemize}

(3 marks)
2. a) (i) Show the time quarter past seven on the clock face.

(ii) Write the time half an hour later.

b) If today is Sunday ninth May, what date was it last Sunday?

c) Annabel is doing a summer job from 9:00 am till 14:00.
She is paid €5.34 per hour.
If she takes a 1 hour unpaid break everyday, how much does she earn:

(i) in 1 day?

€

(ii) in a five-day week, correct to the nearest euro?

€ (correct to nearest euro) (8 marks)
3. The diagram shows a sketch of \( \triangle ABC \). Use the following instructions to construct an accurate diagram.

a) Mark point C on the line, 10 cm away from point B.
b) Use a protractor to draw an angle of 37° at B and an angle of 53° at C.
c) Continue to make an accurate, labelled drawing of \( \triangle ABC \).
d) Measure angle A.

\[
\text{Angle } A = \underline{\text{_______}}
\]
e) Mark and label point X, the midpoint of BC.
f) Draw a circle with centre X and with AX as radius.

(8 marks)
4. a) Work out the size of the lettered angles.

(i)  \( p \)

\[ p = \underline{\quad}^\circ \]

(ii)  \( q \)

\[ q = \underline{\quad}^\circ \]

(iii)  \( r \)

\[ r = \underline{\quad}^\circ \]

(iv)  \( s \)

\[ s = \underline{\quad}^\circ \]

b) Write \textbf{acute angle, obtuse angle, right angle} or \textbf{reflex angle} under the appropriate diagram.

\[ x = \underline{\quad} \quad y = \underline{\quad} \quad z = \underline{\quad} \]

\( (8 \text{ marks}) \)
5.a) *Magic Mobile* uses this number machine to calculate the cost per call:

\[
\text{Input} \rightarrow \times 4 \rightarrow +15 \rightarrow \text{Output}
\]

- Number of minutes
- Cost per call in cent

(i) Charlotte makes a 5 minute call. How much does her call cost?

\[\text{_____ cent}\]

(ii) Xandru makes a 10 minute call. He says he will pay twice as much as Charlotte. Is he correct? Explain.

_________________________________________________________________________

_________________________________________________________________________

5.b)

(i) Draw the 4th pattern in this sequence made up of matches.

(ii) Complete this table:

<table>
<thead>
<tr>
<th>Pattern number</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of matches</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(7 marks)
6. The table shows the pocket money (in euro) earned per week by a group of children.

<table>
<thead>
<tr>
<th>Pocket Money (euro)</th>
<th>Tally</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 5</td>
<td>//</td>
<td>2</td>
</tr>
<tr>
<td>6 - 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 15</td>
<td>X X X</td>
<td>3</td>
</tr>
<tr>
<td>16 - 20</td>
<td>X X X</td>
<td>4</td>
</tr>
<tr>
<td>21 - 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 - 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

a) What is the range of pocket money? € __________

b) Complete the table.

c) Continue shading the bar chart to represent the above information.

d) Fill in the spaces.

The number of children who received less than €16: those who received €16 or more

= _______ : _______

e) What is the probability of receiving more than €20 in this group?

(8 marks)
7.

a) Write the co-ordinates of \( A \) \(( , )\) and \( C \) \(( , )\).

b) Plot and label the point \( B \) \((8, 7)\).

c) Use a ruler to join \( A \) to \( B \) to \( C \) to form a triangle.

d) What is this triangle called?

\(\)  

\(8\) marks
8. a) The diagram shows a balanced scale. Fill in the spaces below.

(i) B = _______ g

(ii) A = _______ g

(iii) Find the value of $x$ when

\[ x + 8 = 10 \]

\[ x = _______ \]

(iv) Find the value of $y$ when

\[ 2y - 3 = 7 \]

\[ y = _______ \]

b) Complete the LOGO command that draws a **square** whose **perimeter** is 200 turtle steps.

\[
\text{PD REPEAT _____ [ FD ____ RT ____ ]}
\]

(8 marks)
9. a) Tidy up:
   
   (i) \(4a + 9b + a - 2b = \) ________________

   (ii) \(2(3p - 4) + p = \) ________________

b) If \(h = 2\) and \(j = 5\), work out the value of \(3(h + j)\).

   ________________

(7 marks)

10. For each of the following describe \textbf{fully} the transformation which takes the first shape on to the second.

a) \(P\) to \(Q\) ____________________________________________

b) \(P\) to \(R\) ____________________________________________

(5 marks)
11. a) 

Fill in:

This solid has _______ edges.

b) 

(i) Calculate the value of $h$.

$h = _____ \text{ cm}$

(ii) Work out the total volume of the solid formed by the two cuboids.

$_____ \text{ cm}^3$

(5 marks)