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 9.5

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

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

4. a) Arrange these cards 0 0 • 4 4 to make the number **nearest** to 4.

   b) If $585 \div 13 = 45$, what is the answer of $5.85 \div 13$?

   c) Evaluate:
      
      (i) $(0.3)^2$

      (ii) $(-2) \times (-5)$
5. a) Anita thinks of a number. The number lies between 2 and 99.
   The number is: a **square** number, an **odd** number, and also a **factor** of 100.
   What is her number?
   
   ___________________

   b) Fill in with the **smallest** number possible:

   \[30 + \square = \text{a multiple of } 9\]

   c) Write 420 as a product of its **prime factors**.

   ___________________

   (4 marks)

6. a) Fill in:

   The size of angle \( p \) is about \__________ \.

   \[45^\circ \quad 85^\circ \quad 100^\circ \quad 200^\circ\]

   \[\hline\]

   b) One angle of an isosceles triangle is 70°.

   Mario says that in this triangle, one of the angles could be 55°.

   Is he right? Explain.

   Yes / No,

   because……\__________________________________________________________________________

   \__________________________________________________________________________

   (3 marks)
7. At Peppi’s farm of the cows have spots. At Leli’s farm of the cows have spots. Lora says that there are more cows with spots in Leli’s farm. Is she right? Explain.
Yes / No. ___________________________________________

(2 marks)

8. a) Express 3 km 9 m in km. 

_________________

b) Henry made a scale model of a car using a scale of 1:20.
If the real car is 5 m long, how long is the model?

_________________

(2 marks)

9. Complete the sequence:
_____, −5, −3, −1, 1, _____

(2 marks)

10. a) Simplify:


_________________

b) , , , , , , Which two of the fractions above, together make ?

(3 marks)

END OF PAPER
1 a) Complete this shape which has two lines of symmetry.

![Diagram of a shape with two lines of symmetry]

b) Which of the following quadrilaterals has rotational symmetry but does not have any lines of symmetry?

- KITE
- PARALLELOGRAM
- RECTANGLE
- TRAPEZIUM

(3 marks)
2 a) (i) Show the time \textit{quarter to eight}, on the clock face.

(ii) Write the time \textit{half} an hour later.

b) If today is Friday seventh May, what \textbf{date} was it last Friday?

\underline{\hspace{15cm}}

c) Annabel is doing a summer job from \textbf{09:00} till \textbf{14:00}. She is paid €5.34 per hour. If she takes a 1 hour \textbf{unpaid} break everyday, how much does she earn:

(i) in 1 day?

\underline{\hspace{15cm}}

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

\underline{\hspace{15cm}}

(correct to nearest euro)

(7 marks)
3. The diagram shows a sketch of triangle ABC. Use the following instructions to construct an accurate diagram.

a) Mark point B on the line, 8 cm from point A.
b) Use a protractor to draw an angle of 65° at A.
c) Continue to make an accurate, labelled drawing of triangle ABC.
d) Use a protractor to measure angle C.

Angle C = ______
e) Measure the height of the triangle from C to the base AB, correct to 1 decimal place.

Height = ______ cm

f) Work out the area of triangle ABC.

______ cm²

(8 marks)
4. Work out the size of the lettered angles.
Then choose one of the following reasons for each answer.

\[
\begin{array}{cccc}
\text{angles of a triangle} & \text{corresponding angles} & \text{vertically opposite angles} \\
\text{alternate angles} & \text{angles on a straight line} & \\
\end{array}
\]

\( p = \underline{\phantom{000}} \degree \)

(reason: \underline{\phantom{000}})

\( q = \underline{\phantom{000}} \degree \)

(reason: \underline{\phantom{000}})

\( r = \underline{\phantom{000}} \degree \)

(reason: \underline{\phantom{000}})

\( s = \underline{\phantom{000}} \degree \)

(reason: \underline{\phantom{000}})

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

\[
\text{Input} \quad \text{Number of minutes} \quad \xrightarrow{\times 4} \quad \text{Output} \quad \text{Cost per call in cent} \quad \xrightarrow{+ 15}
\]

*Happy Phones* charges only 3 cent per minute plus a charge of 20 cent per call.

a) Write this as a number machine.

\[
\text{Input} \quad \text{Number of minutes} \quad \xrightarrow{} \quad \text{Output} \quad \text{Cost per call in cent}
\]

b) Marlene makes a call lasting 2 minutes.

Which company is cheaper and by how much?

_________ cheaper by ______ cent

c) Gary pays 19 cent for a call using *Magic Mobile*. How long is his call?

_____ minute/s
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>///</td>
<td></td>
</tr>
<tr>
<td>16 - 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 - 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 - 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td></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 getting more than €20 in this group?

(8 marks)
7.

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

b) Plot and label the point P ( –1 , 5 )
   and the point Q ( 3 , 1 ).

c) Use a ruler to join A to C.

d) Which one of the following is the equation of line AC?
   \[ x = 7 \quad y = 4 \quad x = y \quad x + y = 4 \]

(7 marks)
8 a) 

(i) ABCD is a rectangle. Complete the equation in terms of \( x \):

\[ 3x - 3 = \ldots \]

(ii) From (i), find value of \( x \).

\[ x = \ldots \]

(iii) Work out the length of side \( AB \).

\[ \ldots \text{ cm} \]

(iv) The area of rectangle ABCD is equal to the area of a square.

What is the length of one side of this square?

\[ \ldots \text{ cm} \]

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

\[ \text{PD REPEAT } \ldots \text{ [ FD } \ldots \text{ RT } \ldots \text{ ]} \]

(10 marks)
9 a) Tidy up:

(i) \(-4a + 9a - 2a = \) ____________________

(ii) \(2(3p - q) + p + q = \) ____________________

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

__________________

(6 marks)

10.

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

a) P to Q ____________________

b) P to R ____________________

(5 marks)
11 a) This solid has _______ edges

and

_______ faces.

b) Work out the **volume** of the solid.

\[ \text{Volume} = \text{length} \times \text{width} \times \text{height} \]

\[ = 6 \times 2 \times 8 \]

\[ = 96 \text{ cm}^3 \]

(6 marks)

**END OF PAPER**