DIRECTOR
AT
E FOR QUALITY AND STANDARDS IN EDUCATION
Department of Curriculum Management
Educational Assessment Unit

Annual Examinations for Secondary Schools 2014

FORM 1  MATHEMATICS  TIME: 30 minutes
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>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>
</tr>
</tbody>
</table>

DO NOT WRITE ABOVE THIS LINE

Name: ______________________________   Class: ___________

Instructions to Candidates

• Answer all questions.

• This paper carries a total of 25 marks.

• Calculators and protractors are NOT allowed.
1. Work out:
   
   (a) $513 - 164 + 382$
   
   Ans: ____________________

   (b) $86.8 \div 7$
   
   Ans: ____________________

   (c) $4000 \times 700$
   
   Ans: ____________________

   (4 marks)

2. (a) A deckchair, an umbrella and a beach towel cost €24.99, €6.80 and €12.59 respectively. **Is €45 enough** to buy all these items? Show all your working.

   Ans: ____________________

   (4 marks)

   (b) Chairs in a hall are arranged in 58 rows and 24 columns. How many chairs are there?

   Ans: ________________ chairs

   (4 marks)
3. Evaluate:

(a) \(-33 - 3\) \hspace{1cm} (b) \((-33) \div (-3)\)

Ans: \______________  \hspace{1cm} Ans: \______________

(2 marks)

4. (a) 270 ml of juice is poured from a one litre juice bottle. How much juice is left in the bottle?

Ans: \______________ ml

(b) How many minutes are there in 3.5 hours?

Ans: \______________ minutes

(2 marks)

5. (a) Express \(\frac{3}{40}\) as a percentage.

Ans: \______________ %

(b) A recipe book has 420 pages. 30\% of the pages are about starters, 45\% of the pages are about main dishes and the remainder are about desserts. How many pages in the recipe book are about desserts?

Ans: \______________ pages

(4 marks)
6. (a) (i) Write down all the factors of 36.

Ans: __________________________________________

(ii) Which of the above factors are square numbers?

Ans: __________________________

(b) Write 288 as a product of prime factors.

Ans: __________________________

(5 marks)

7. (a) Calculate $\frac{7}{12}$ of 324 kg.

Ans: _____________________ kg

(b) Jason and Emma are going on a holiday. They decide to spend $\frac{5}{6}$ of the holiday in Spain and $\frac{1}{3}$ in France.

(i) There is a mistake in the above fractions. Explain why.

___________________________________________________________________________________

___________________________________________________________________________________

(ii) Suggest two different fractions showing how the entire holiday can be spent in Spain and France.

Ans: __________, __________

(4 marks)

END OF NON CALCULATOR PAPER
1. (a) Which number is smaller? –15 or –25

Ans: ___________________

(b) Write 6527.993 correct to:

(i) 2 decimal places

Ans: ___________________

(ii) 1 decimal place

Ans: ___________________

(c) Fill in the missing terms:

______, _____, 2, 4, 8, 16.

(4 marks)
2. (a) Write 324 508 in words.

_____________________________________________________________________________
_____________________________________________________________________________

(b) Find the least common multiple of 12 and 18.

Ans: __________________

(c) Simplify 750 ml : 2000 ml

Ans: _________:_________

(d) The scale of a map is 1 : 25000. What is the actual distance which is represented by
6.4 cm on the map?

Ans: ________________ cm

3. Arrange these numbers in order, starting from the largest:

0.085, 0.0908, 0.0098, 0.079, 0.7008

Ans: __________, __________, __________, __________, __________

(2 marks)
4. (a) Which of the following are **regular** shapes? Underline the correct answers.

   - square
   - rectangle
   - kite
   - trapezium
   - equilateral triangle

(b) Name **1 difference** between

   (i) a square and a rectangle:
   ______________________________________________________________________

   (ii) a rectangle and a parallelogram:
   ______________________________________________________________________

   (iii) a parallelogram and a trapezium:
   ______________________________________________________________________

(c) Here is a list of words that are related to circles.

   - centre
   - radius
   - diameter
   - circumference

Label the 2 boxes on this diagram by choosing the correct word from the list.

(i) ______________________________________________________________________

(ii) ______________________________________________________________________

(7 marks)
5. A bag contains 10 marbles, numbered 1 to 10. A marble is chosen at random from the bag. Find the **probability** that the number on the marble chosen is:

(a) 3

Ans: __________________

(b) less than 11

Ans: __________________

(2 marks)

6. (a) Amanda changes **hours** to **minutes** by **multiplying** the number of hours by **60**. **Complete** the following function machine, where \( h \) represents the number of hours and \( m \) represents the number of minutes.

\[
\begin{array}{ccc}
  h & \rightarrow & m \\
\end{array}
\]

(b) Work out the **input** for the following number machine.

\[
\begin{array}{ccc}
  ? & \rightarrow & -3 & \rightarrow & +4 & \rightarrow & 28 \\
\end{array}
\]

Ans: __________________

(c) The cost \( C \) of making photocopies is \( 5 \) cent per page plus \( 50 \) cent charge on every order. It is given by the formula \( C = 5p + 50 \), where \( p \) stands for the number of pages.

(i) Find the cost, in cent, of photocopying 5 pages.

Ans: ________________ cent

(ii) How many pages can be photocopied with \( \varepsilon 2 \)?

Ans: ________________ pages

(6 marks)
7. (a) Draw a triangle PQR such that PQ = 7.8 cm, PR = 6 cm and angle P is 50°. Side PQ has been done for you.

(b) Can all the three angles of a triangle be acute? Explain your answer by giving an example.

_____________________________________________________________________________

_____________________________________________________________________________

(4 marks)

8. The number of dresses sold in 9 days from a shop are given below:

14  12  14  8  8  14  14  14  10

(a) Find the mean number of dresses.

Ans: ______________________

(b) Find the mode.

Ans: ______________________

(3 marks)
9. Write the value of each lettered angle in the following diagrams. Give a reason for each answer.

\[ b^\circ = \text{____________}_\circ \quad \text{Reason: _____________________________.} \]

\[ c^\circ = \text{____________}_\circ \quad \text{Reason: _____________________________.} \]

\[ d^\circ = \text{____________}_\circ \quad \text{Reason: _____________________________.} \]

\[ e^\circ = \text{____________}_\circ \quad \text{Reason: _____________________________.} \]
10. The frequency table below shows the marks obtained by Form 1 students in a Mathematics examination.

<table>
<thead>
<tr>
<th>Marks</th>
<th>1 – 20</th>
<th>21 – 40</th>
<th>41 – 60</th>
<th>61 – 80</th>
<th>81 – 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

(a) Use the grid below to **draw and label** a bar chart to illustrate the above data.

(b) Claire said that the above data shows that one student obtained 100 marks. Is this statement correct? Explain why.

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

(5 marks)

11. (a) **Simplify** $3a - 8b + 2a + 5b + 15a - 4b$.

Ans: __________________
(b) Find the value of \( a + b^2 \) when \( a = 5 \) and \( b = 3 \).

Ans: __________________

(c) James thinks of a number. He multiplies it by 4 and subtracts 7. His answer is 29.

(i) **Form an equation** using the above information.

Ans: __________________

(ii) **Solve** the equation to find James’ number.

Ans: __________________

12. Jude wants to draw parallelogram PQRS. Two sides, PQ and QR, are drawn on the grid below.

(a) **Complete** the parallelogram PQRS by drawing two more lines on the above grid. **Label** the missing vertex S.

(b) Write down the **coordinates** of point S.

\[ S = \underline{\hspace{2cm}} \]

(3 marks)
13. (a) The **perimeter** of a rectangle is 420 cm. If the length is 180 cm, find its **width**.

\[ \text{Ans: } \ ] \ \text{cm} \]

(b) Find the **area** of this shape:

\[ \text{Ans: } \ ] \ \text{mm}^2 \]

(c) Calculate the **volume** of the following shape:

\[ \text{Ans: } \ ] \ \text{m}^3 \]
14. A line passes through the points (–3, –6), (–1, –2) and (2, 4).

(a) Plot the points on the above grid and join them to form a straight line.

(b) Find the equation of the line.

Ans: ____________________

(4 marks)

END OF EXAMINATION