FORM 2 MATHEMATICS TIME: 30 minutes
Non Calculator Paper

Name: ________________________________ Class: ____________

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
<th>Total</th>
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</table>

Instructions to Candidates

- Answer ALL questions.
- This paper carries a total of 25 marks.
- Calculators and protractors are NOT ALLOWED.
1. Anna puts numbers in this machine.

![Diagram of machine with operations: x 100, ÷ 10, ÷ 2]

Work out the answer that comes out when she puts in the following numbers:

a) 247  

b) 40.06


(2 marks)

2. Mr Zerafa buys some carrots, broccoli and cherries.

a) Which item cost him least?

___________________

b) Calculate his total bill.

€ ________________

<table>
<thead>
<tr>
<th>Carrot</th>
<th>Broccoli</th>
<th>Cherries</th>
</tr>
</thead>
<tbody>
<tr>
<td>72c</td>
<td>1.12</td>
<td>2.57</td>
</tr>
</tbody>
</table>

c) What change does Mr Zerafa get from €5.00?

€ ________________

(5 marks)
3. Angela goes shopping.

a) Write the prices of Angela’s shopping in order, starting from the smallest.

________, __________, __________, __________, __________

b) Underline the correct word:
The pineapple has the (least, mode, highest, median, range) price.

c) Write each price correct to the nearest Euro (£).

€1.72  €2.38  €3.61  €3.25  €2.50

________, __________, __________, __________, __________

d) Use your answers in (c) to calculate a rough estimate of how much Angela spends in all.

€ ________________

(6 marks)

4. The number in each rectangle is equal to the sum of the two numbers directly below it.

Example: 3 = 1 + 2

Find the values of A, B, C and D.

A = _______,  B = _______,  C = _______,  D = _______

(2 marks)
5. Work out these:
   a) \((-7) - (-1) = \) ____________________
   b) \(30 \times (5 - 2) = \) ____________________
   c) \(2^2 - 1 = \) ____________________  

(5 marks)

6. Becky and her four friends share the total bill equally among them.
   The total bill is €25.30.
   How much does each one pay?

(2 marks)

7. a) Draw the reflection of this shape in the line of symmetry.
    b) Move this Euro coin 3 right and 2 up.
       Draw the coin in the new position.

(3 marks)

END OF PAPER
**DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION**  
Department for Curriculum Management and eLearning  
Educational Assessment Unit  
**Annual Examinations for Secondary Schools 2012**  

**FORM 2**  
**MATHEMATICS**  
**Main Paper**  

**TIME:** 1h 30min

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total Main | Non Calc | Global Mark |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----------|---------|------------|
| Mark     |   |   |   |   |   |   |   |   |   |    |    |    |    |          |         |            |

**DO NOT WRITE ABOVE THIS LINE**

Name ___________________________________________  
Class __________

**CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN. ANSWER ALL QUESTIONS.**

1.  

\[
\begin{array}{ccccccc}
5 & 8 & 7 & 0 & 3 & 1 \\
\end{array}
\]

a) Use these cards to make the following numbers:

   i) the **smallest** 4-digit number. ___________________

   ii) the **largest** 3-digit number. ___________________

   iii) a 2-digit **multiple of 7**. ___________________

b) Fill in the missing numbers in the function machines:

\[
\begin{array}{ccc}
8 & \times 2 & \rightarrow \\
& +2 & \rightarrow \\
\rightarrow & \times 3 & \rightarrow 15 \\
\end{array}
\]

(5 marks)
2. a) Jake uses some solid wooden shapes to make a puppet.
Fill in the blanks using the following words:

| cubes,       | cuboid,     | cone,       | sphere,     | cylinder |

Jake does not use any __________.

b) Find the volume of wood of one of the cuboids used for the puppet’s feet.

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

\[
5 \text{ cm} \times 6 \text{ cm} \times 12 \text{ cm} = \ \text{cm}^3
\]

(5 marks)

3. a) Use your pencil to shade this grid grey and white in the ratio 2 : 3.

b) Fill in:
   - There are __ grey squares.
   - There are __ white squares.

(c) Write this fraction in its lowest terms:

\[
\frac{\text{grey squares}}{\text{whole grid}} = \frac{15}{15} = \frac{\Box}{\Box}
\]

(d) Write the fraction in (c) as a percentage.

\[
\% \quad \text{(5 marks)}
\]
4. Circle the odd one out.

   a) (50%, $\frac{1}{2}$, 0.2, 0.5)
   b) (4, 5, 9, 16)
   c) (cm, mm, g, km)
   d) (scalene, square, isosceles, equilateral)

   (4 marks)

5. a) Match the angles formed by the girl’s fan to their correct names. One is done for you.

   straight line   acute angle   right angle   reflex angle   obtuse angle

   b) Use your protractor to draw and label an angle of 83°.

   (5 marks)
6. a) Peter weighs each item.

Mark the **weight** of each item on the scale. The first one is done for you.

![Scale with items](image)

b) How many **small pieces of cheese** (200 g) can be cut from the **larger piece** (1.5 kg)?

\[ \text{_____________ pieces} \]

(5 marks)

7. a) Fill in the spaces on this probability scale with the **numbers** \(0, 1, \frac{1}{2}\).

![Probability scale](image)

b) Write the **letters** in the correct places.

[A] Easter Day will be on a Sunday.

[B] At the dentist, the next person to enter the waiting room is a female.

[C] You will live forever.

[D] A multiple of 4 shows when I throw a dice.

(A)

(5 marks)
8. a) Luke writes LOGO commands for the turtle to draw this triangle.

Fill in the **missing** command.

```
PD
LT 90
FD 80
_________
FD 50
HOME
```

b) Calculate the **missing** angle.

```
50 turtle steps
50°

80 turtle steps
```

```
91°
50°
80 turtle steps
```


```
°
```

```
```

(c) Use compasses and protractor to construct Luke’s triangle accurately.

```
1 cm = 10 turtle steps
```

(6 marks)
9. Sam does a questionnaire among his friends at the football nursery.

**FOOTBALL NURSERY QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Male</th>
<th>Age</th>
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<tbody>
<tr>
<td></td>
<td>8 years</td>
</tr>
<tr>
<td>Female</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>9 years</th>
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<tbody>
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<td></td>
<td>10 years</td>
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<tr>
<td></td>
<td>11 years</td>
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<tr>
<td></td>
<td>12 years</td>
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</tbody>
</table>

He shows the information collected as follows:

<table>
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<tr>
<th>Age</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td><strong>Number of Players</strong></td>
<td>4</td>
<td>2</td>
<td>15</td>
<td>8</td>
<td>1</td>
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</table>

a) Measure the angle in the pie chart that represents the female players.

b) Underline the correct word:

There are more (females, males, players) in Sam’s football nursery.

c) How many players answered the questionnaire?

_______ players.

d) What is the most common age of the players?

_______ years.

e) What is the age of the oldest player?

_______ years.

f) Find the range of ages at the football nursery.

_______ years.
g) Complete the bar chart to show all the information about the ages of the players.

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<tr>
<th>Number of players</th>
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(8 marks)

10. Jessica has €50 in her wallet. She wants to buy the following items.

![Items](image)

a) How much money does she need?

€ ____________

b) Does she have enough money?  YES □   or   NO □

c) The salesgirl gives her a discount of 10% on the total bill.
   How much does Jessica save?

€ ____________

(4 marks)
11. This is a sketch of Claire’s house.

![Diagram of Claire's house]

a) Fill in all the measurements of Claire’s bedroom. The first measurement is done for you.

b) Calculate the perimeter of Claire’s bedroom.

__________________ m

(c) Find the area of Claire’s bedroom.

__________________ m²

(6 marks)
12. a) Look at the graph and fill in the blanks:

\[ €6 = £ ____ \]

b) Use the information in (a) to calculate the cost in **Pounds** (£) of a video game which costs €48.

\[ £__ \] (3 marks)

Nathan writes down the formula

\[ C = 2n + 3. \]

a) Underline the correct one:

\[ C \] stands for (total cost, game cards, packets).

b) How much does it cost to buy 5 **packets** of cards?

\[ €__ \]

(3 marks)

c) Nathan buys some packets of game cards for him and his friends.
He spends a **total** of €27.
How many **packets** of cards does he buy?

\[ ____ \] packets

(4 marks)
14.

a) Fill in the coordinates of \( A(\quad, \quad) \) and \( C(\quad, \quad) \)

b) Join points A, B, C and D to form shape ABCD.

c) Underline the correct word: Shape ABCD is called a (triangle, trapezium, square).

d) Plot and label the following points:
   i) \( E(-1, 5) \)  ii) \( F(-1, -3) \)  iii) \( G(0, -2) \)  iv) \( H(3, -2) \)  v) \( I(-1, 4) \)

e) Join the lines \( AE, EF, FG, GH \) and \( HI \).

f) The Picture formed has a vertical line of symmetry. TRUE [ ] or FALSE [ ]

(10 marks)

END OF PAPER