|  | SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010 <br> Directorate for Quality and Standards in Education <br> Educational Assessment Unit |
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| FORM 3 | MATHEMATICS SCHEME C |
| Non Calculator Paper |  | TIME: $\mathbf{3 0}$ minutes

Name: $\qquad$ Class: $\qquad$

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |

INSTRUCTIONS TO CANDIDATES

- Answer all questions.
- This paper carries a total of $\mathbf{2 5}$ marks.
- Calculators and protractors are not allowed.

1 Fill in.
a) $3 \mathrm{~kg}=$ $\qquad$ grams
b) $\qquad$ metres $=600 \mathrm{~cm}$

2 Work out
$(32+8) \times 10$

3 A bag contains 3 cards with the numbers 2, 3, and 4 written on them.
Another bag contains 3 cards with the numbers 4,5 and 7 written on them.
Pawlu takes one card from the first bag and one card from the second bag.
a) Complete the possibility space below.

|  |  | First Bag |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 2 | 3 | 4 |
|  | 4 | $(2,4)$ |  |  |
| Second <br> Bag | 5 |  |  | $(4,5)$ |
|  | 7 |  | $(3,7)$ |  |

b) Write the probability that the sum of the two numbers is 9 .
$\qquad$

4 a) Fill in.
(i) $(-10)+6=$ $\qquad$
(ii) $(-10)+(-6)=$ $\qquad$
b) Put these three temperatures in order, the lowest first.

$$
-4^{\circ} \mathrm{C} \quad 2^{\circ} \mathrm{C} \quad-10^{\circ} \mathrm{C}
$$

5 Fill in the missing numbers.
a) $5,10,15$, $\qquad$ , 25
b) 1, 2, 4, $\qquad$ 16, 32
c) $0.3,0.5,0.7,0.9$, $\qquad$

6 This football costs € $\mathbf{6 4 . 5 0}$.
At a sale it is sold at half price.
a) Work out the sale price of the football.

$€$ $\qquad$
b) At the sale, Pawlu buys $\mathbf{3}$ footballs.

How much does Pawlu pay for the 3 footballs?
$€$ $\qquad$

7 a) Fill in.
$10 \%$ of $€ 500=€$
b) Work out

$$
\frac{7}{10}-\frac{1}{5}
$$

8 a) Work out the perimeter of the triangle.

Perimeter $=$ $\qquad$ cm
b) Work out the area of the triangle.


Area = $\qquad$ $\mathrm{cm}^{2}$
SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010
Directorate for Quality and Standards in Education
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FORM 3
MATHEMATICS SCHEME C MAIN PAPER

TIME: 1h 30min (

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ | $\mathbf{1 3}$ | $\mathbf{N C}$ | Main | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Name:

$\qquad$ Class: $\qquad$
Calculators are allowed but the necessary working must be shown. Answer all questions.

1
a) Underline the correct answer.

The amount of water in the jug is

$$
\text { (301 m } \ell, 310 \boldsymbol{m} \boldsymbol{\ell}, 320 \mathrm{~m} \ell)
$$

b) Fill in.

4 litres = $\qquad$ $m \ell$


2


Fill in.
a) The first lesson begins at $\qquad$ past $\qquad$ .
b) The first lesson is $\qquad$ minutes long.

3 This diagram shows the net of a cuboid.
a) Use your ruler to measure and fill in.

Length $=$ $\qquad$ cm

Width $=$ $\qquad$ cm

Height $=$ $\qquad$ cm
b) Work out the volume of the cuboid.


Volume $=$ $\qquad$ $\mathrm{cm}^{3}$

4 The table shows the distances between three places in Malta.

|  | Mosta | Mellieha | Mġarr |
| :--- | :---: | :---: | :---: |
| Mosta |  | 10 km | 6 km |
| Mellieha | 10 km |  | 7 km |
| Mġarr | 6 km | 7 km |  |

a) Fill in.
(i) Mosta to Mellieћa = $\qquad$ km
(ii) Mgarr to $\qquad$ $=6 \mathrm{~km}$
b) Robert walks at $\mathbf{5} \mathbf{~ k m}$ per hour. How long does it take him to walk from Mosta to Mellieћa and back?

$\qquad$ hours
$5 \quad 120$ persons were asked to name their favourite fruit. Their answers are shown in the pie chart.
a) Which is the most favourite fruit?
b) What percentage like apples?
$\qquad$ \%
c) How many persons like peaches?

$\qquad$ persons
d) A person is chosen at random. What is the probability that the person likes bananas?
$\qquad$

6 a) Write down the ratio BALLS : DOLLS.
$\qquad$ : $\qquad$
b) Complete the following ratios.

c) In a class the ratio of boys : girls is 1:3. There are 21 girls. How many boys are there in the class?
$\qquad$ boys


7 This number machine changes miles to kilometres.

a) Use the number machine to fill in.

$$
15 \text { miles }=
$$

$\qquad$ kilometres
$\qquad$ miles $=32$ kilometres
b) $\boldsymbol{M}$ stands for the number of miles.
$\boldsymbol{K}$ stands for the number of kilometres.
Complete this formula.

$$
K=
$$

$\qquad$

8 The diagram shows a regular hexagon.
a) Work out the size of angle $x$.
angle $x=$ $\qquad$ $\circ$

b) Use your protractor to draw a regular hexagon inside the circle.


9 a) Use ruler and compasses only to draw triangle $P Q R$.

b) VAT is charged at $18 \%$.

Work out the selling price of the football boots.

$€$ $\qquad$

10 a) Find the value of $\boldsymbol{x}$.

$x=$ $\qquad$ kg
b) Solve these equations.
(i) $a-9=5$
(ii) $4 b=24$
(iii) $2 c-3=15$
$a=$ $\qquad$ $b=$ $\qquad$ $c=$ $\qquad$

11 The following are the shoe sizes of pupils in a class.

| 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |

a) Complete the frequency table.

| Shoe size | Frequency |
| :---: | :---: |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 | 2 |
| Total |  |

b) Write down the median and mode of this set of data.

$$
\text { Median }=
$$

Mode =
$\qquad$
c) Work out the mean (average) of this set of data.

Mean $=$ $\qquad$

12 a) Write down the coordinates of point $\mathbf{P}$. ( , )

b) Plot the points $(1,2)$ and $(5,-2)$.
c) Draw a line passing through the 3 points.
d) Complete this table of values for $\boldsymbol{y}=\mathbf{2 x}$.

| $\boldsymbol{x}$ | -1 | 1 | 3 |
| :---: | :---: | :---: | :---: |
| $\boldsymbol{y}=\mathbf{2 x}$ | -2 |  |  |

e) Plot the points from the table.

Join the points with a straight line.
f) Write down the coordinates of the point where the two lines meet.
( , )

13 a) Underline the name of this shape
(i) (Pentagon, Hexagon, Octagon)
(ii) Draw all the lines of symmetry.
b) Reflect the shape in the mirror lines.


c) Draw the triangle after
(i) a translation of 4 to the right and 5 up
(ii) a rotation of $90^{\circ}$ clockwise about $\mathbf{A}$.


