## SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education Educational Assessment Unit

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

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mark |  |  |  |  |  |  |  |  |  |  |

## Instructions to Candidates

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

1. Work out the following:
a) 257
b) 75
$+126$
$-26$
c) $9-12=$ $\qquad$
2. Evaluate:
a) $1234.2 \div 10=$
b) $320 \times 5=$
c) $5^{2}-(5 \times 2)=$ $\qquad$
(3 marks)
3. a) What is the area of rectangle ABCD ?
$\qquad$ $\mathrm{cm}^{2}$

b) Find the area of triangle ABC .
$\qquad$ $\mathrm{cm}^{2}$
c) Find the perimeter of triangle ABC .
$\qquad$ cm
(3 marks)
4. In $\triangle \mathrm{ABC}, \angle \mathrm{CAB}=90^{\circ}, \angle \mathrm{ABC}=30^{\circ}, \angle \mathrm{DAB}=40^{\circ}$.

Evaluate:
a) $\angle \mathrm{CAD}$

$\qquad$
-
b) $\angle \mathrm{ACB}$
$\qquad$
$\bigcirc$
c) $\angle \mathrm{CDA}$
$\qquad$
$-$
(4 marks)
5. Given that: $z=4 x-3 y$, find the value of $z$ when $x=8$ and $y=10$.
6. Tom is facing North.

He turns $270^{\circ}$ clockwise and now he is facing due $\qquad$ .

(1 mark)
7. a) Fill in:

b) Work out:
i) $\frac{6}{7}-\frac{3}{7}=$
ii) $25 \%$ of $76=$
8. Solve these equations:
a) $2 z=8$ $\qquad$
b) $x+10=15$
$x=$ $\qquad$
c) $\quad \frac{y}{11}=7$
$y=$ $\qquad$
9. Work out the average of these numbers:

| 50 | 20 | 18 | 82 | 45 |
| :--- | :--- | :--- | :--- | :--- |

## SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Total <br> Main | Non <br> Calculator | Global <br> Mark |
| ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: |
| Mark |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

DO NOT WRITE ABOVE THIS LINE

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

- Answer all questions.
- This paper carries 75 marks.
- Calculators and mathematical instruments are allowed but all necessary working must be shown.

1. a) Work out: $72.2 \times 41.8 \div 120.7184$. $\qquad$
b) The square of a number is 25 . What is the number? $\qquad$
c) Find the cube of the answer to (b). $\qquad$
2. In a class there are 24 students. 6 students live in Rabat, 8 in Hamrun and the rest in Valletta.
a) How many students live in Valletta?
b) What fraction of the students lives in Rabat?

c) Fill in the boxes in the Pie chart to show where the students live.
3. An L-shaped solid is 25 cm long and is made up of two parts, $\mathbf{A}$ and $\mathbf{B}$, as shown bo
a) Work out the area of rectangle $\mathbf{A}$.
$\qquad$ $\mathrm{cm}^{2}$
b) Work out the area of rectangle B.

$\qquad$ $\mathrm{cm}^{2}$
c) i) What is the volume of cuboid A?
$\qquad$ $\mathrm{cm}^{3}$
ii) What is the volume of cuboid B ?
$\qquad$ $\mathrm{cm}^{3}$
d) What is the total volume of the solid?
$\qquad$ $\mathrm{cm}^{3}$
4. In a garden there are 7 black puppies and 3 white puppies.

What is the probability that a puppy will be:
a) black
b) either black or white?

Name: $\qquad$

## Class:

$\qquad$
5. a) Complete the following table for the graph $y=x+5$.

| $x$ | 0 | 1 | 3 | 4 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $y$ |  | 6 |  |  | 11 |

b) Use your table to draw the graph of: $y=x+5$.

c) From your graph, find
i) the value of $y$ when $x=5$.
ii) the value of $x$ when $y=7$.
$y=$ $\qquad$ $x=$ $\qquad$
(8 marks)
6.

Use only a ruler and compasses.
On the given line mark point $B$ such that $A B=10 \mathrm{~cm}$.
At A draw a line AC such that $\angle \mathrm{A}=90^{\circ}$ and $\mathrm{AC}=5 \mathrm{~cm}$.
Join BC.
Measure BC.

(6 marks)
7. a) On the grid below, plot and label the points $\mathrm{A}(-5,0)$; $\mathrm{B}(-2,4)$; $\mathrm{C}(2,4)$ anc
b) Join A to B, B to C, and C to D.
c) Use the $x$ axis as a mirror line and draw the image of the shape you have drawn.
d) What is the name of this six-sided shape?

8. The diagram shows a picture in a frame. The picture is 16 cm long and 14.5 cm wide.
a) Find the area of the picture.
$\qquad$ $\mathrm{cm}^{2}$

The frame is 19 cm long and 17.5 cm wide.
b) Calculate the area of the frame with the picture.

c) The picture is taken out of the frame. Work out the area of the frame only.
$\qquad$ $\mathrm{cm}^{2}$
9. John wants to draw the square shown using LOGO.

The perimeter of the square is 200 turtle steps.
a) What is the length of one side of the square?

$\qquad$ turtle steps
b) Fill in the blanks in the following commands so that the turtle draws the square.
$\qquad$ [ FD $\qquad$ RT $\qquad$ ]
10. The diagram shows the net of a solid shape. Complete:
a) The solid shape is called a $\qquad$ .
b) The solid shape has $\qquad$ edges.

c) The solid shape has $\qquad$ faces.
d) Each face has the shape of a $\qquad$ (rectangle, cube, square, cuboid).

The length of a side of each small square is 0.5 cm .
e) What is the length of one edge?
$\qquad$ cm
11. Mrs Gatt used a spreadsheet to work out her shopping bill:

|  | A | B | C | D |
| :---: | :---: | :--- | :---: | :---: |
| $\mathbf{1}$ | Quantity | Description | Unit cost (€) | Cost (€) |
| $\mathbf{2}$ | 2 | Pizza | 3.26 | 6.52 |
| $\mathbf{3}$ | 3 | Packets of biscuits |  | 2.46 |
| $\mathbf{4}$ |  | Bars of soap | 1.02 | 5.10 |
| $\mathbf{5}$ |  |  | Total |  |

a) Which one of the following formulae did Mrs Gatt type in cell D2?

$$
=\mathbf{A} 3 * \mathbf{A} 2 ; \quad=\mathbf{A} 2+\mathbf{C} 2 ; \quad=\mathbf{A} 2 * \mathbf{C} 2 ; \quad=\mathbf{A} 2+\mathbf{A} 3
$$

b) Fill in cells A4 and C3 and write down the total in cell D5.
12. Tom is using some sticks to make the patterns below.



Pattern 3

Pattern 1

Pattern 5
a) Complete the table for Pattern 2 and Pattern 3.

|  | Pattern 1 | Pattern 2 | Pattern 3 |
| :--- | :---: | :---: | :---: |
| Number of squares | 1 |  |  |
| Number of sticks | 4 |  |  |

b) Draw Pattern 5.
c) How many sticks will Tom need for Pattern 5?

## END OF PAPER

