

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit



FORM 2

MATHEMATICS SCHEME C

TIME: 30 minutes

Non-Calculator Paper

Name: _____

Class: _____

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

Instructions to Candidates

- **Answer all questions.**
 - **This paper carries a total of 25 marks.**
 - **Calculators and protractors are not allowed.**
-

1. Work out the following:

$$\begin{array}{r} \text{a) } 257 \\ + 126 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{b) } 75 \\ - 26 \\ \hline \\ \hline \end{array}$$

c) $9 - 12 =$ _____

(3 marks)

2. Evaluate:

a) $1234.2 \div 10 =$ _____

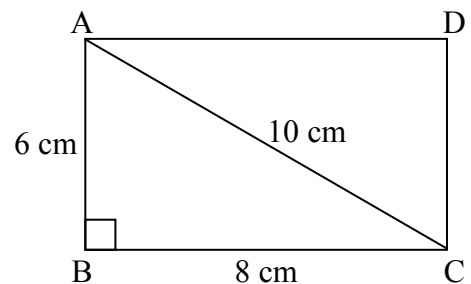
b) $320 \times 5 =$ _____

c) $5^2 - (5 \times 2) =$ _____

(3 marks)

3. a) What is the area of rectangle ABCD?

_____ cm^2



b) Find the area of triangle ABC.

_____ cm^2

c) Find the perimeter of triangle ABC.

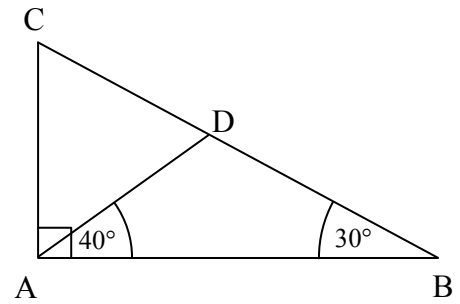
_____ cm

(3 marks)

4. In $\triangle ABC$, $\angle CAB = 90^\circ$, $\angle ABC = 30^\circ$, $\angle DAB = 40^\circ$.

Evaluate:

a) $\angle CAD$



_____°

b) $\angle ACB$

_____°

c) $\angle CDA$

_____°

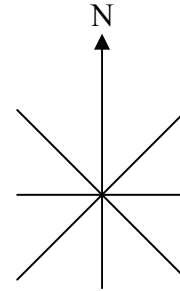
(4 marks)

5. Given that: $z = 4x - 3y$, find the value of z when $x = 8$ and $y = 10$.

(2 marks)

6. Tom is facing North.

He turns 270° clockwise and now he is facing due _____.



(1 mark)

7. a) Fill in:

$$\frac{\boxed{15}}{\boxed{18}} = \frac{\boxed{5}}{\boxed{}}$$

b) Work out:

i) $\frac{6}{7} - \frac{3}{7} =$

ii) 25% of 76 =

(3 marks)

8. Solve these equations:

a) $2z = 8$

$z =$ _____

b) $x + 10 = 15$

$x =$ _____

c) $\frac{y}{11} = 7$

$y =$ _____

(3 marks)

9. Work out the average of these numbers:

50 20 18 82 45

(3 marks)

END OF PAPER

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

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FORM 2

MATHEMATICS SCHEME C

TIME: 1h 30min

Main Paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	Total Main	Non Calculator	Global Mark
Mark															

DO NOT WRITE ABOVE THIS LINE

Name: _____

Class: _____

- 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 : $72.2 \times 41.8 \div 120.7184$. _____

b) The **square** of a number is 25. What is the number? _____

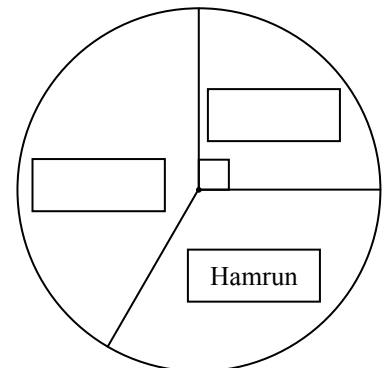
c) Find the **cube** of the answer to (b). _____

(3 marks)

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.

(6 marks)

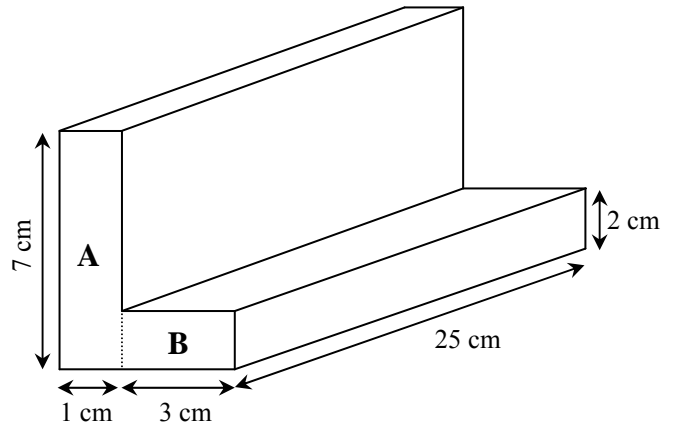
3. An L-shaped solid is 25 cm long and is made up of two parts, **A** and **B**, as shown below.

a) Work out the area of rectangle **A**.

_____ cm²

b) Work out the area of rectangle **B**.

_____ cm²



c) i) What is the volume of cuboid A?

_____ cm³

ii) What is the volume of cuboid B?

_____ cm³

d) What is the total volume of the solid?

_____ cm³

(10 marks)

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? _____

(4 marks)

Name: _____

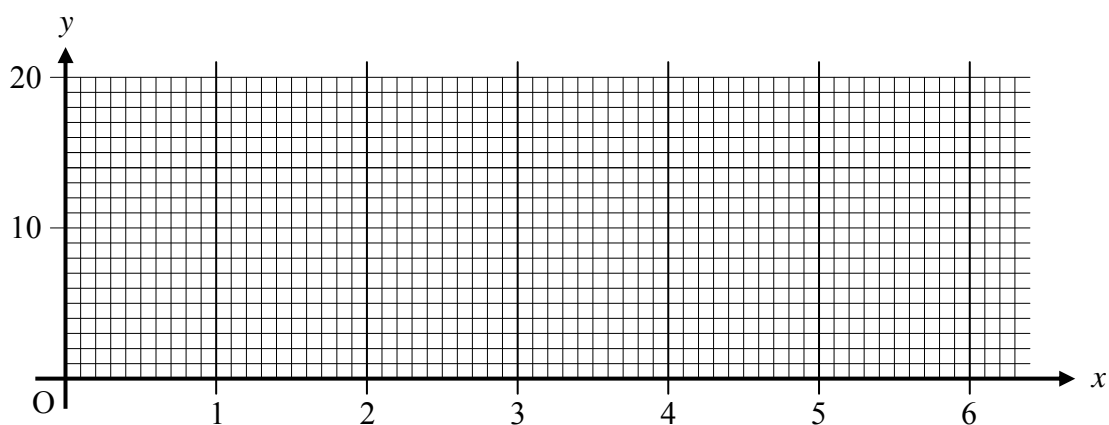
Class: _____

C

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 $x = 5$.

$y =$ _____

ii) the value of x when $y = 7$.

$x =$ _____

(8 marks)

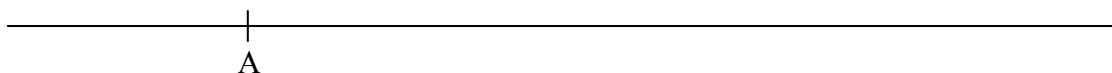
6. Use **only** a ruler and compasses.

On the given line mark point B such that $AB = 10$ cm.

At A draw a line AC such that $\angle A = 90^\circ$ and $AC = 5$ cm.

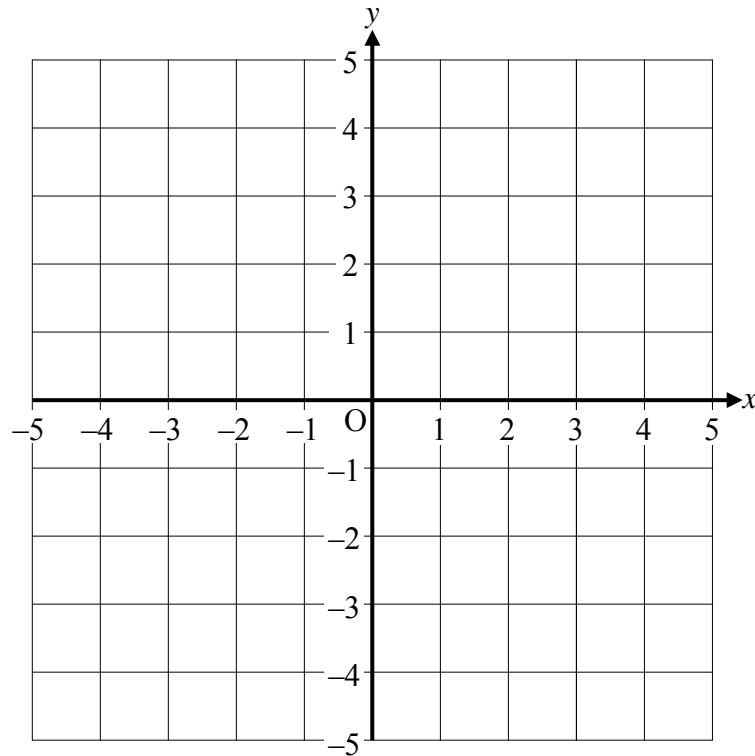
Join BC.

Measure BC.



(6 marks)

7. a) On the grid below, plot and label the points A (-5, 0); B (-2, 4); C (2, 4) and D (5, 0).
 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?



(10 marks)

8. The diagram shows a picture in a frame. The picture is 16 cm long and 14.5 cm wide.

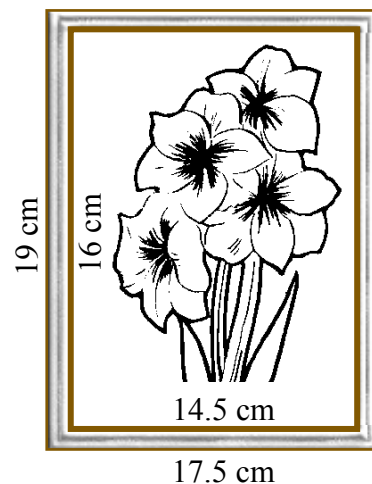
- a) Find the area of the picture.

_____ cm^2

The frame is 19 cm long and 17.5 cm wide.

- b) Calculate the area of the frame with the picture.

_____ cm^2



- c) The picture is taken out of the frame. Work out the area of the frame **only**.

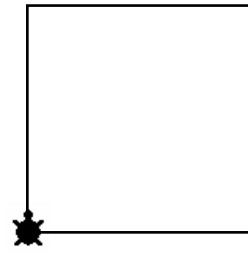
_____ cm^2

(6 marks)

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?



_____ turtle steps

b) Fill in the blanks in the following commands so that the turtle draws the square.

PD REPEAT ____ [**FD** ____ **RT** ____]

(5 marks)

10. The diagram shows the net of a solid shape.

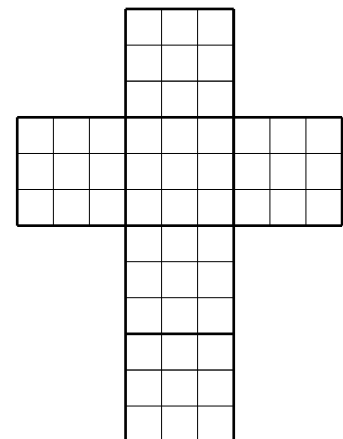
Complete:

a) The solid shape is called a _____.

b) The solid shape has _____ edges.

c) The solid shape has _____ faces.

d) Each face has the shape of a _____ (rectangle, cube, square, cuboid).



The length of a side of each **small** square is 0.5cm.

e) What is the length of one edge?

_____ cm

(6 marks)

11. Mrs Gatt used a spreadsheet to work out her shopping bill:

	A	B	C	D
1	Quantity	Description	Unit cost (€)	Cost (€)
2	2	Pizza	3.26	6.52
3	3	Packets of biscuits		2.46
4		Bars of soap	1.02	5.10
5			Total	

a) Which one of the following formulae did Mrs Gatt type in cell **D2**?
 $=A3*A2$; $=A2 + C2$; $=A2*C2$; $=A2 + A3$

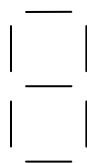
b) Fill in cells **A4** and **C3** and write down the total in cell **D5**.

(4 marks)

12. Tom is using some sticks to make the patterns below.



Pattern 1



Pattern 2



Pattern 3

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**?

(7 marks)

END OF PAPER