FORM 2	**MATHEMATICS** Levels 7-8	**TIME: 30 mins**

Non Calculator Paper

Question	1	2	3	4	5	6	7	8	9	10	Total
Max. Mark	2	1	3	2	4	3	3	3	2	2	25
Mark											

DO NOT WRITE ABOVE THIS LINE

INSTRUCTIONS TO CANDIDATES:

Read all the questions carefully before you start answering.

- Answer all questions.

- This paper carries 25 marks.

- **Calculators, protractors** and other mathematical instruments are **NOT ALLOWED.**

- On your desk you should have nothing except for **pen, pencil, ruler** and the **examination paper**.
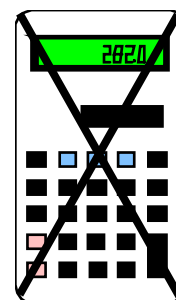
1. Work out:

   a) $4 \times (-3)$

   Ans:_____

   b) $(-12) \div (-4)$

   Ans:_____

   (2 marks)

2. Fill in the following by writing the words **factor** or **multiple** in the correct place.

   a) 2 is a _____ of 8.

   b) 24 is a _____ of 8.

   (1 mark)

3. Work out these:

   a) $\dfrac{3}{7} + \dfrac{1}{2}$

   Ans:_____

   b) $\dfrac{3}{4} \div \dfrac{5}{8}$

   Ans:_____

   (3 marks)

4. Fill in the squares with the missing numbers:

$$\frac{3}{4} = \frac{\square}{12} = \frac{18}{\square}$$

(2 marks)

5. Find the **median, mode and range** of the following numbers:

    1.6,   2.4,   3.9,   1.7,   1.6,   0.2,   1.3,   2

    Ans: Median: _____

    Mode: _____

    Range: _____

(4 marks)

6. Complete the following table:

Fraction in its lowest terms	Percentages	Decimals
$\frac{1}{2}$	50 %	0.50
$\frac{2}{5}$		
	$8\frac{1}{4}$ %	
		0.65

(3 marks)

7. Choose the correct symbol from $<$, $>$ or $=$
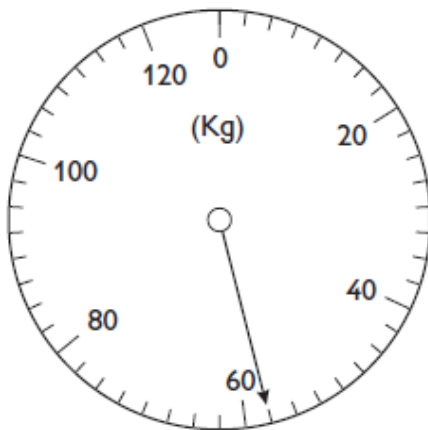
a) -10 ☐ -15

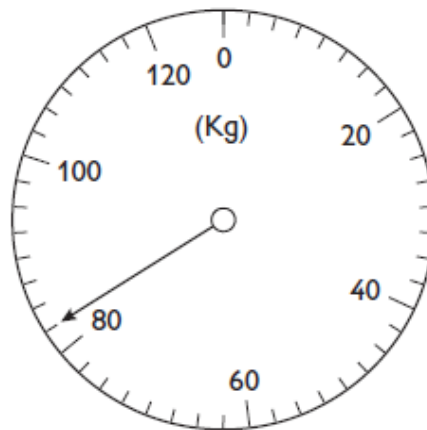b) 0.3 ☐ $\dfrac{1}{3}$

c) $\dfrac{1}{5}\,of\ €65$ ☐ $€13$

(3 marks)

8.

Scale A   Scale B

a) What is the reading on scale A?

Ans:_____

b) What is the reading on scale B?

Ans:_____

c) What is the difference between the two readings?

Ans:_____

(3 marks)

9.   Evaluate $3 + 4.2 \times 3^2$

Ans:_____

(2 marks)

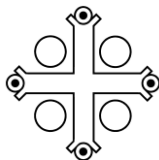10.   a) Write in ascending order: 1, -3, 4, -10, -7, -12

Ans:_____

b) Write in descending order: 2.02, 2.6, 2.3, 2.52, 2.73, 2.005

Ans:_____

(2 marks)

KULLEĠĠ SAN BENEDITTU

Boys Secondary School, Kirkop

HALF-YEARLY EXAMINATIONS – FEBRUARY 2013

FORM 2   **MATHEMATICS** Levels 7-8   **TIME: 1hr 30 mins**

MAIN PAPER

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Main	NC	Global Mark
Max. Mark	5	5	8	3	4	3	4	9	12	2	3	3	8	6	75	25	100
Mark																	

DO NOT WRITE ABOVE THIS LINE

INSTRUCTIONS TO CANDIDATES:

Read all the questions carefully before you start answering.

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

1. Write

    a)   119.56 to the nearest whole   Ans:_____

    b)   Estimate $\dfrac{4.7 \times 32.8}{9.99}$

                                                               Ans:_____

    c)   Evaluate $\dfrac{\sqrt{6.75} + 20.23}{8^2}$ correct to 2 decimal places

                                                               Ans:_____

                                                               (5 marks)

2. Mariah wants to make a patchwork quilt from squares. The quilt measures **72 cm** by **180 cm** and the width of each square patch has to be a whole number of centimetres.

   What length is the side of the **largest** square patch that can be used to make the quilt?
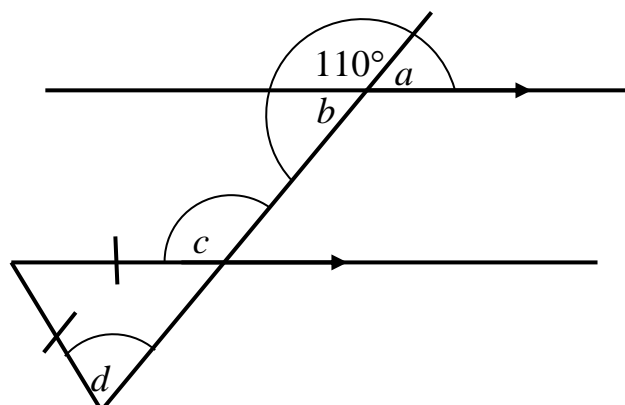

                                                               Ans:_____cm

                                                               (5 marks)

3.   Find the lettered angles giving reasons for your answers.

$\angle a =$ _____   Reason: _____

$\angle b =$ _____   Reason: _____

$\angle c =$ _____   Reason: _____

$\angle d =$ _____   Reason: _____

(8 marks)

4.   Work out $1\frac{1}{2} + 2\frac{2}{5} - 1\frac{1}{4}$

Ans:_____

(3 marks)

5. Paul sat for 5 exams. The following table shows his results:

Subjects	Marks
Maths	65
English	40
Maltese	55
Science	70
French	☐

His mean mark was 61. What mark did he obtain in French?

Fill in the box with the correct mark.

(4 marks)

6. Can all the honey in the glasses be placed in one honey jar? Explain why.

(3 marks)

7. A dress is priced at €140. The shop offers a discount of 20%.

a) Find the cost of the dress after the discount.

Ans:_____

b) Express the new price as a percentage of the original price.

Ans:_____

(4 marks)

8. a) Find the value of $5x^2 + 3y$ when $x = 2$ and $y = -2$

Ans:_____

b) Factorise $8xy - 12a$

Ans:_____

c) i) Expand $5(2x + 4y)$

Ans:_____

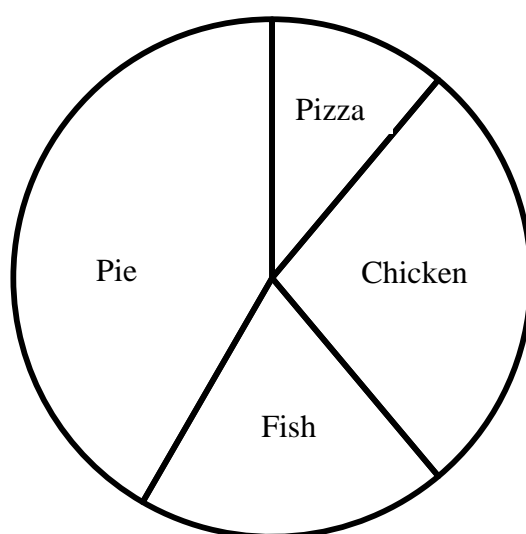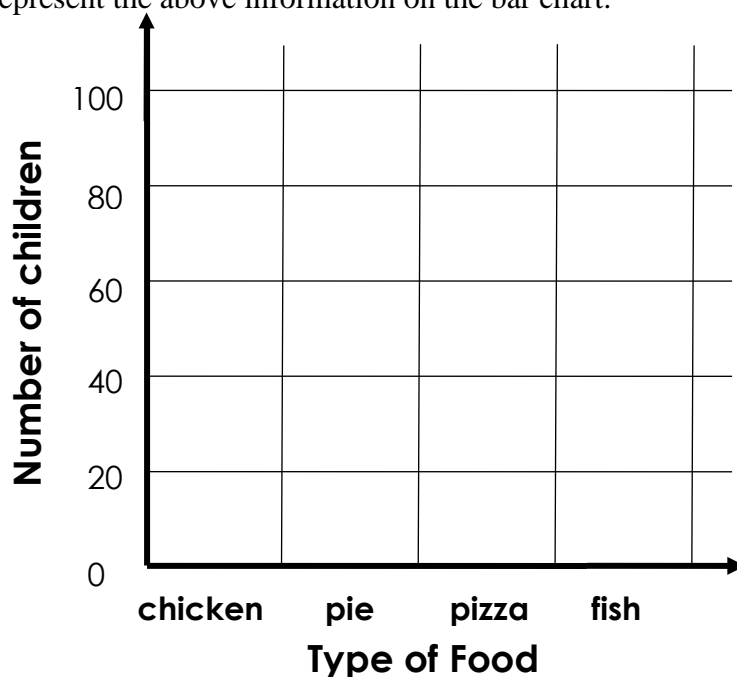ii) Expand and Simplify $12(x + 5) - 4(2x - 2)$

Ans:_____

(9 marks)

9.   The pie chart shows the favourite type of food of a group of 180 children.

a)   Measure the angle of each sector and work out how many students like each type of food. (Hint: Each angle is a multiple of 10.)

Type of Food	Angle	Number of Students
Chicken		
Pie		
Pizza		
Fish		

b)   Represent the above information on the bar chart.

(12 marks)

10. The temperature in Alaska is – 15°C. The temperature in Rome is 20°C. What is the difference in temperature?

Ans:_____

(2 marks)

11. Tom has €*x* and Kate has €*y*. Tom and Kate have €20 in all.

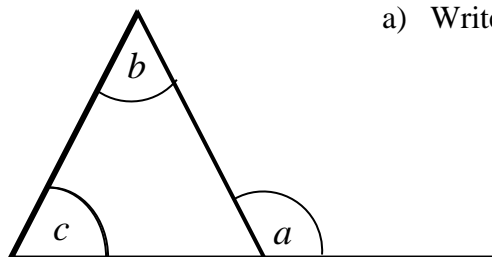   a) Write down a formula for the total amount of money, T, that Tom and Kate have.

Ans:_____

   b) If Tom has €12, how much money does Kate have?

Ans:_____

(3 marks)

12.   a) Write down a formula for *a* in terms of *b* and *c.*

Ans:_____

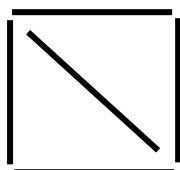   b)   What is *a* when $b = 60°$ and $c = 40°$?

Ans:_____
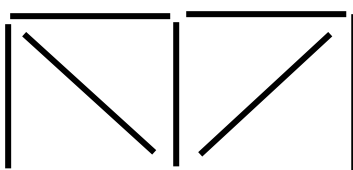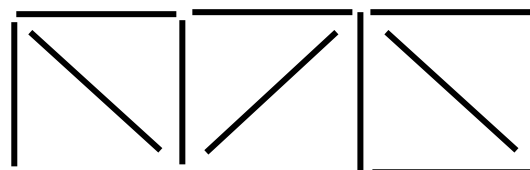
(3 marks)

13. Sarah is making patterns out of sticks:

Pattern 1 **Pattern 2** **Pattern 3**

a) Draw the next pattern.

b) Complete the following table:

Pattern	1	2	3	4	5
No. of Sticks	5				

c) Write down a formula for the nth **term**.

Ans:_____

d) How many sticks are needed for **pattern 50**?

Ans:_____

(8 marks)

14. A class of 20 students obtained the following marks in a Maths test:

45	48	50	51	53
57	59	62	64	66
71	72	74	75	78
80	83	89	91	95

a) Complete the following table:

Marks (M)	Tally	Frequency
$40 < m \leq 50$	| | |	3
$50 < m \leq 60$		
$60 < m \leq 70$		
$70 < m \leq 80$		
$80 < m \leq 90$		
$90 < m \leq 100$		

b) How many students obtained less than or equal to 60 marks?

Ans:_____

c) How many students obtained more than 80 marks?

Ans:_____

(6 marks)

END OF PAPER