

KULLEĠĠ SAN BENEDITTU
Boys Secondary School, Kirkop

Levels
7-8

HALF-YEARLY EXAMINATIONS – FEBRUARY 2014

FORM 1

MATHEMATICS

TIME: 1 h 30 mins

Levels 7-8

Main Paper

Quest.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Main	NC	Global Mark
Max. Mark	1	2	2	6	5	4	2	3	15	6	6	6	7	10	75	25	100
Mark																	

DO NOT WRITE ABOVE THIS LINE

NAME AND SURNAME: _____ **CLASS:** _____

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. **24,150** spectators were present for the final match of the Spanish league.

Write the figure in **words**.

(1 mark)

2. a. Which is the **largest** number? Underline the correct answer.

One million or **five hundred thousand**

- b. Write *one hundred fifty thousand and three* in figures. _____

(2 marks)

3. Amongst a group of youths, **12** of them prefer **rock music**, **18** like **house music** best while the remaining **9** are fans of **classical music**.

Express the above information as a ratio of *classical music : house music : rock music*.
Give your answer in its **simplest form**.

Ans: _____ : _____ : _____

(2 marks)

4. **True or False:**

	True	False
a. A polygon is regular if all its sides are equal.	<input type="checkbox"/>	<input type="checkbox"/>
b. 2 acute angles and 1 reflex angle can make 1 revolution.	<input type="checkbox"/>	<input type="checkbox"/>
c. These numbers are in order, smallest first: 0.2 , 3.9 , 1.7 , 3.5 , 5	<input type="checkbox"/>	<input type="checkbox"/>
d. $\frac{40}{100}$ in its lowest terms is $\frac{2}{5}$	<input type="checkbox"/>	<input type="checkbox"/>
e. The marked reading on the scale is 1.2.	<input type="checkbox"/>	<input type="checkbox"/>
f. A circle with radius 10cm has a diameter of 5cm.	<input type="checkbox"/>	<input type="checkbox"/>



(6 marks)

5. a. Fill in the empty spaces using the following numbers.
Each number can be used only once.

2	5	8	9	25	45
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- i) _____ is the cube of _____
 ii) _____ is the square root of _____
 iii) _____ is a factor of _____

- b. Express **60** as a product of its prime factors.

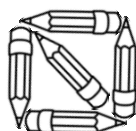
Ans: _____

(5 marks)

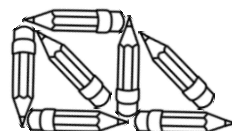
6. The following is a sequence made up of pencils.



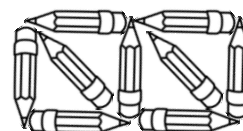
Pattern 1



Pattern 2



Pattern 3



Pattern 4

- a. Complete the following table.

Pattern Number	1	2	3	4	5	6
Number of Pencils	3	5				

- b. How many pencils are added each time? _____ pencils
 c. How many pencils are there in **Pattern 8**? _____ pencils

(4 marks)

7. Draw the shape for the following LOGO commands:

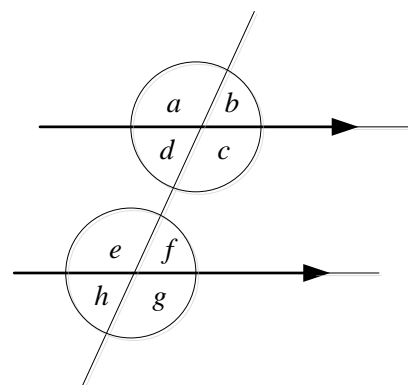
PD
RT 90
FD 50
RT 90
FD 50



(2 marks)

8. a. Complete these sentences:

- i. Angle a is **corresponding** to angle _____.
- ii. Angle c is **alternate** to angle _____.

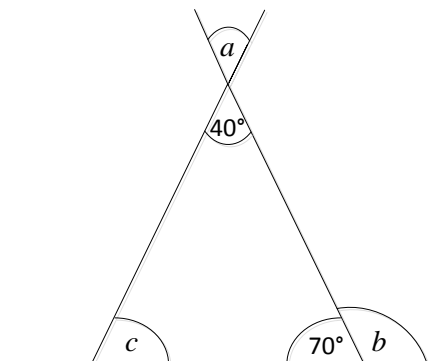


b. Measure angle f .

Angle $f = \underline{\hspace{2cm}}^\circ$

(3 marks)

9. In the following diagrams, find the marked angles a , b , c , d and e .
Give **reasons** for your answers.



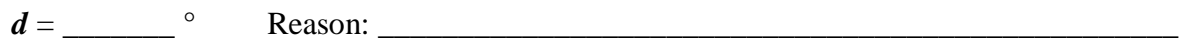
$a = \underline{\hspace{2cm}}^\circ$ Reason: _____

$b = \underline{\hspace{2cm}}^\circ$ Reason: _____

$c = \underline{\hspace{2cm}}^\circ$ Reason: _____

Fill in:

The above triangle is _____ triangle.



(15 marks)

- Ans: _____ % were girls

- Ans: _____ boys

- | |
|--|
| |
| |
| |
| |

(6 marks)

11. The total amount of money collected by 10 girls during a fundraising event amounted to €120.

Janet, Carla and Petra each collected €10 while both Sandra and Sylvia raised €20 each.

Karen collected €7.50, Cynthia €12.50, Maria €15, Rita €8 and Phyllis €7.

- a. Calculate the **mean** amount of money collected by the girls.

€ _____

- b. Find the **range** of the collected money.

€ _____

- c. What is the **modal** amount of money collected?

€ _____

- d. Find the **median** amount of money collected by the girls.

€ _____

(6 marks)

12. a. The following is a number machine and its table.

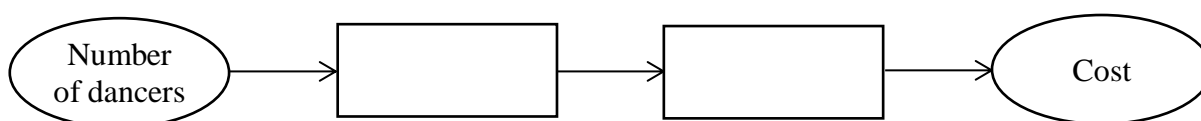


Input a	Output x
4	1
10	7
15	

- Complete the above number machine.
- In the above table, fill in the empty **output x** .
- Write the rule for the above number machine. Rule: $x =$ _____
- What is the value for **input a** when the **output x** is **20**? _____

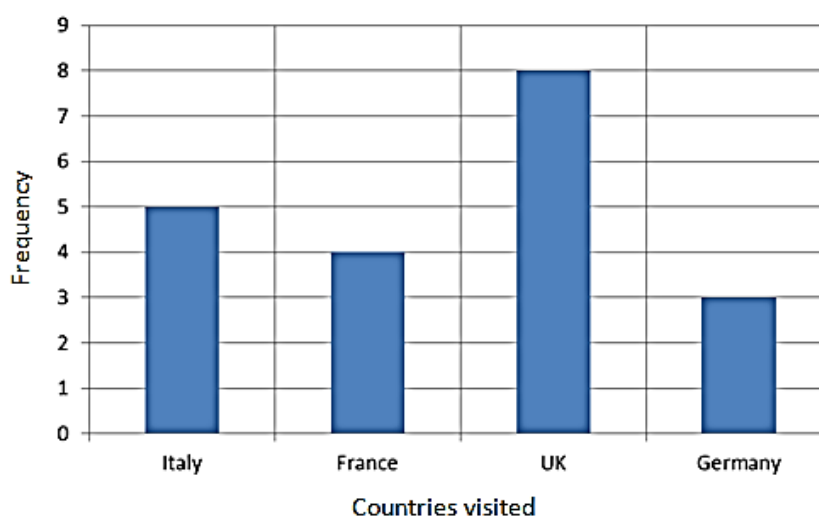
- b. To take part in a dance show a group has to pay €5 for **each dancer** in the group and a **one-time application fee of €25**.

Use this information to fill in the following number machine:



(6 marks)

13. The bar chart below shows the countries visited by 15 students in a Form 3 class.



- a. Complete the following frequency table.

Country	Tally	Frequency
Italy		
France		
UK		
Germany		
Total:		20

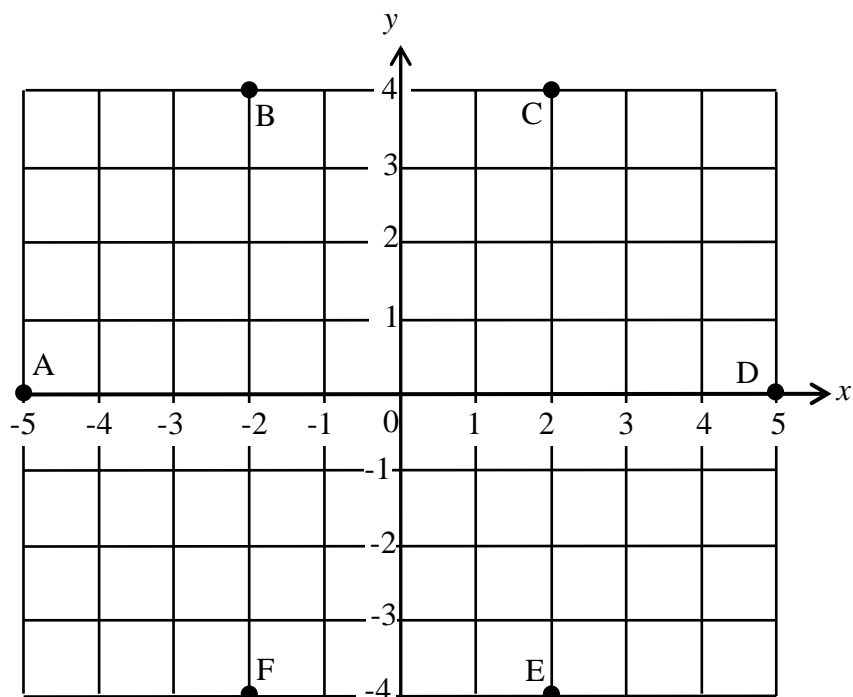
- b. Give a reason why the frequency table shows a total of 20 when there are only 15 students in the Form 3 class.

- c. Express the number of visits to France as a **percentage** of the total number of visits.

Ans: _____ %

(7 marks)

14.



a. What are the co-ordinates of points **D** and **F**?

D (_____ , _____) and **F** (_____ , _____)

b. Join point **A** to **B** to **C** to **D** to **E** to **F** and back to **A**.

c. What shape is formed? _____

d. Is it a regular shape? _____

e. Plot and label the following points:

W (-3 , 1) **X** (3 , 1) **Y** (3 , -1)

f. On the graph, **mark** and **label** point **Z** such that WXYZ is a **rectangle**.

g. Fill in:

The co-ordinates of point **Z** are (_____ , _____)

(10 marks)

END OF EXAM