

**KULLEĠĠ SAN BENEDITTU**  
**Boys Secondary School, Kirkop**

**Levels**  
**7-8**

**HALF-YEARLY EXAMINATIONS – FEBRUARY 2014**

**FORM 2**

**MATHEMATICS**  
Levels 7-8

**TIME: 1 h 30mins**

**Main Paper**

Quest.	1	2	3	4	5	6	7	8	9	10	11	12	13	Main	NC	Global Mark
Max. Mark														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. a) Write each of the following numbers as a product of their prime factors:  
15, 20 and 25.

Ans: 15 = \_\_\_\_\_

20 = \_\_\_\_\_

25 = \_\_\_\_\_

- b) Three bells ring together at 6 a.m. If Bell A rings every 15 minutes, Bell B rings every 20 minutes and Bell C every 25 minutes , at what time will they next ring together?

Ans: \_\_\_\_\_

(5 marks)

---

2. Use your calculator to work out the following:

a)  $\left(\frac{2}{3} + \frac{1}{6}\right) \times \left(\frac{3}{4} - \frac{5}{8}\right)$

Ans: \_\_\_\_\_

b)  $\sqrt{300 \times 3} - 2^3$

Ans: \_\_\_\_\_

c)  $\frac{2}{7}$  of €350

Ans: \_\_\_\_\_

(6 marks)

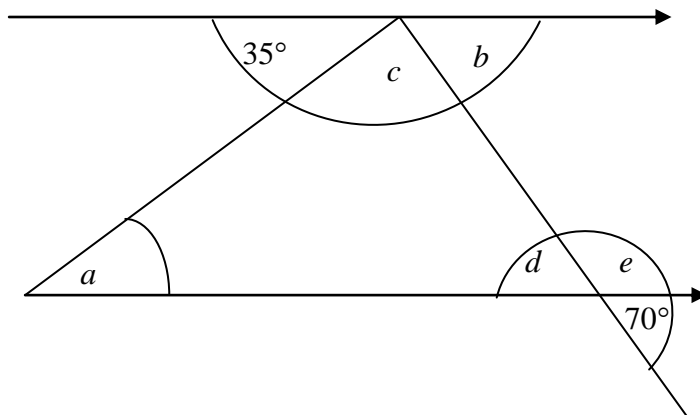
---

Name : \_\_\_\_\_

Class : \_\_\_\_\_

**Levels  
7-8**

3. Find the size of the marked angles and give reasons for your answers.



$\angle a =$  \_\_\_\_ Reason: \_\_\_\_\_

$\angle b =$  \_\_\_\_ Reason: \_\_\_\_\_

$\angle c =$  \_\_\_\_ Reason: \_\_\_\_\_

$\angle d =$  \_\_\_\_ Reason: \_\_\_\_\_

$\angle e =$  \_\_\_\_ Reason: \_\_\_\_\_

(10 marks)

4. Match the three pairs of equivalent fractions

a)  $\frac{3}{6}$   $\frac{15}{20}$

b)  $\frac{75}{100}$   $\frac{5}{10}$

c)  $\frac{3}{5}$   $\frac{12}{20}$

(3 marks)

5. Mariah covers a distance of 1500 m to go to school from home. She travels



$\frac{1}{4}$  of the distance on foot

$\frac{3}{5}$  of the distance by bus

and jogs the remaining distance to school.

- a) How many metres **altogether** does Mariah travel on foot and by bus?

Ans: \_\_\_\_\_m

- b) What **fraction** does she jog?

Ans: \_\_\_\_\_

- c) How many metres does she jog?

Ans: \_\_\_\_\_m

(6 marks)

---

Name : \_\_\_\_\_

Class : \_\_\_\_\_

**Levels  
7-8**

6. The following are the heights in metres of a group of students in Form 4. The heights are given in order of size:

1.51	1.53	1.54	1.55	1.56
1.58	1.58	1.60	1.62	1.63
1.67	1.71	1.72	1.73	1.74
1.75	1.77	1.82	1.83	1.86

- a) Complete the following table:

Height, m, metres	Frequency
$1.5 \leq h < 1.6$	7
$1.6 \leq h < 1.7$	
$1.7 \leq h < 1.8$	
$1.8 \leq h < 1.9$	
Total	

- b) How many pupils are **shorter** than 1.7 m?

Ans: \_\_\_\_\_ pupils

- c) How many pupils are **at least** 1.7 m tall?

Ans: \_\_\_\_\_ pupils

(6 marks)

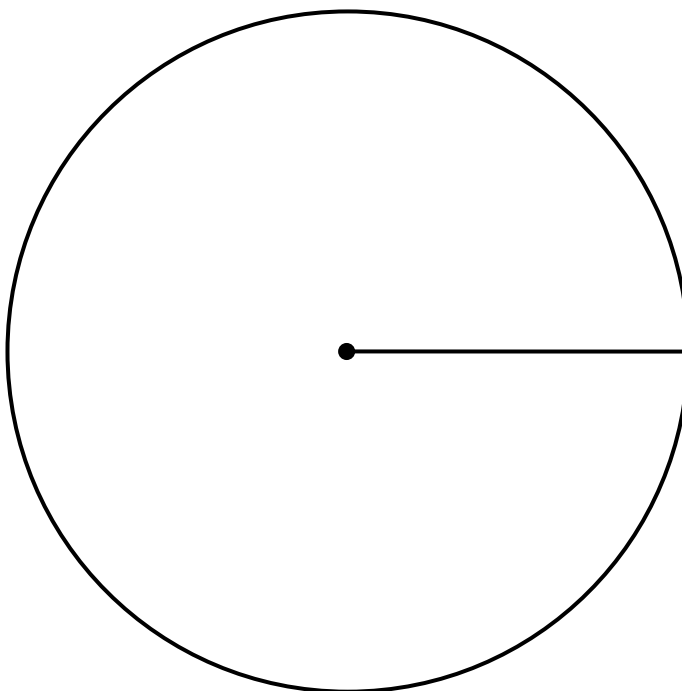
7. The following table shows the hours allocated for each subject during a particular week:

Subject	Maths	English	Science	History	P.E.
Hours	4 hours	5 hours	3 hours	2 hours	1 hour

- a) Find the **total** number of hours.

Ans: \_\_\_\_\_hrs

- b) Complete the pie chart below to represent this information:



(8 marks)

8. Arrange in ascending order:

a)  $33\%$ ,  $\frac{1}{2}$ ,  $35\%$ ,  $0.65$ ,  $\frac{1}{3}$

Ans: \_\_\_\_\_

b) Complete the following table:

Fraction	Decimal	Percentages
$\frac{3}{8}$		
	0.82	
		$2\frac{1}{4}\%$

(6 marks)

9. A shop reduces its prices by 10% in a sale.

a) What is the sale price of a shirt marked €85?



Ans: € \_\_\_\_\_

b) Express 350 cm as a percentage of 5 m.

Ans: \_\_\_\_\_ %

(5 marks)

10. a) Expand:  $3(2x - 5)$

Ans: \_\_\_\_\_

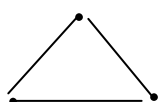
b) Factorise fully:  $15xy - 45z$

Ans: \_\_\_\_\_

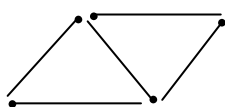
(4 marks)

---

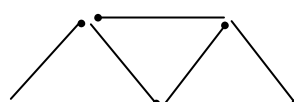
11. Victoria uses matches to form the following shapes:



Shape 1



Shape 2



Shape 3

a) Draw the next shape

b) Help Victoria fill the table below:

Shape Number	1	2	3	4	5
No. of Matchsticks	3	5			

c) Find the ***n*th term**.

Ans: \_\_\_\_\_

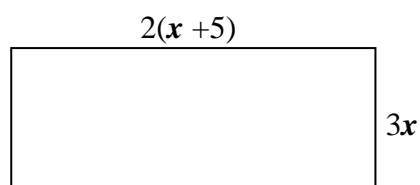
d) How many matchsticks does Victoria need for Shape 50?

Ans: \_\_\_\_\_

(8 marks)



12.



- a) Find an **expression** for the perimeter of the rectangle.

Ans: \_\_\_\_\_

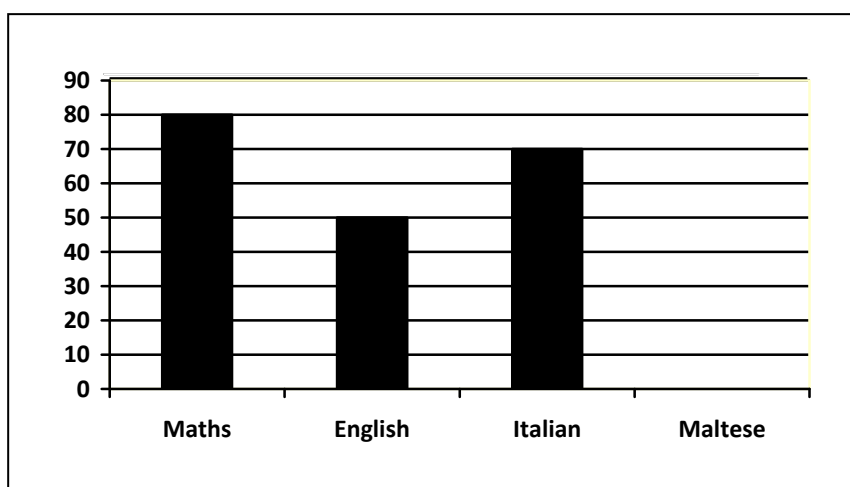
- b) Find the perimeter when  $x = 3$  cm.

Ans: \_\_\_\_\_ cm

(4 marks)

---

13. The following bar chart shows the results that John obtained in his annual exams.



- a) What mark did he obtain in Maltese mark if his **average** mark was 65?

Ans: \_\_\_\_\_

- b) Draw the bar for the Maltese mark in the bar chart.

(4 marks)

---

**END OF EXAM**