

KULLEGG SAN BENEDITTU Secondary School, Kirkop

Mark

HALF YEARLY EXAMINATION – 2017/2018

Track 2

Year 9

MATHEMATICS
Non Calculator Paper

TIME: 30 mins

Question	1	2	3	4	5	6	7	8	NC
Mark									

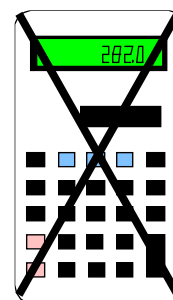
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NAME: _____

CLASS: _____

Instructions to Candidates

- Answer all questions.
- This paper carries a total of 25 marks.
- Calculators and protractors are NOT ALLOWED.



1. Fill in:

i) $2.35 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

ii) $1.25 \text{ hours} = \underline{\hspace{2cm}} \text{ minutes}$

iii) $235 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

(3 marks)

2. a) Work out, giving your answer in its simplest form:

i) $\frac{4}{5} + \frac{3}{10} - \frac{1}{5}$

Ans

ii) $\frac{4}{9} \times \frac{3}{8}$

Ans

b) Change $1\frac{3}{4}$ to an improper fraction.

Ans

(5 marks)

3. a) Simplify: $4c + 2a + 3c - a$

Ans

b) Expand: $3(4 + 3y)$

Ans

(4 marks)

4. Write these ratios in their simplest form.

i) $27 : 45$

ii) $3 \text{ litres} : 7500 \text{ ml}$

Ans

Ans

(3 marks)

5. Work out:

i) $(+9) - (-7)$

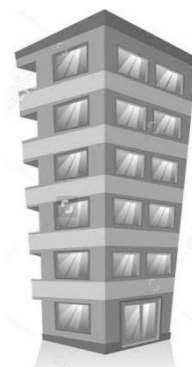
Ans _____

ii) $(-7) \times (-4) \times (+3)$

Ans _____

(2 marks)

6. The price of an apartment is €200,000.
The agent **decreases** the price by 5%.
What is the new selling price?



Ans € _____

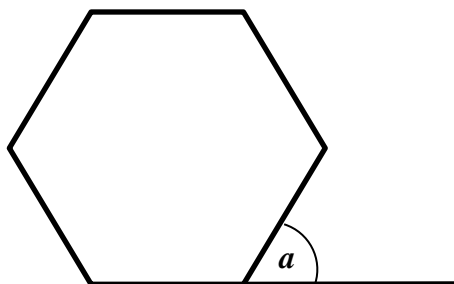
(3 marks)

7. Work out an **estimate** for $\frac{13.57+26.1}{16.75-12.09}$.

Ans _____

(3 marks)

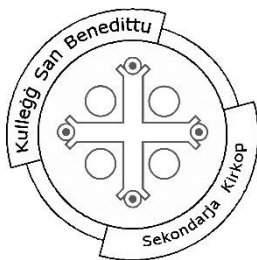
8. The diagram shows a **regular** hexagon.
Calculate the size of ***a***, one of its **exterior** angles.



Ans _____

(2 marks)

END OF NON-CALCULATOR PAPER



KULLEGG SAN BENEDITTU

Secondary School, Kirkop

Mark

HALF YEARLY EXAMINATION – 2017/2018

Track 2

Year 9

MATHEMATICS
Main Paper

TIME: 1 hr 30 mins

Ques.	1	2	3	4	5	6	7	8	9	10	11	12	Main	NC	Global Mark
Mark															

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NAME: _____

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. The distance between the earth and the moon is 384 400 km.



a) Write this distance in **metres**.

Ans _____m

b) Write your answer in part a) in **standard form**.

Ans _____m

(3 marks)

2. a) In the formula $v = ut + \frac{1}{2}at^2$, calculate v when $u = 0$, $a = 10$ and $t = 3$.

Ans _____

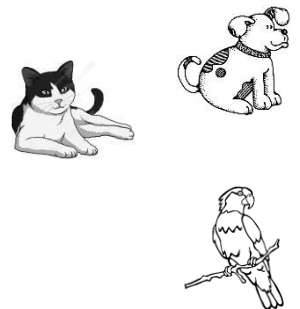
b) Make a the subject of the formula: $3a - 5b = 12$.

Ans _____

(4 marks)

3. The following are the number of pets owned by each of the 24 students in a class:

3	0	2	0	4	5
2	2	1	2	2	1
2	5	0	2	4	0
0	2	1	6	2	1



a) What is the **mode**?

Ans _____

b) Calculate the **range**.

Ans _____

c) A new student joins the class. The **new mean** is 2.
How many pets does the new student have?

Ans _____

(6 marks)

4. The perimeter of a rectangle is 24 cm. The ratio of the **length** to its **breadth** is **3 : 1**.

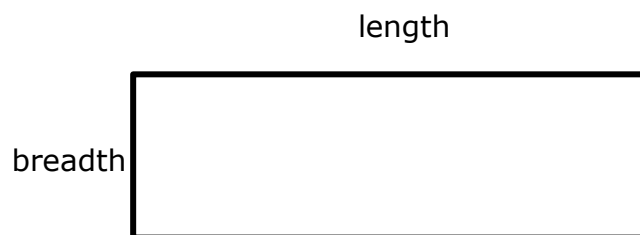


Diagram NOT to scale

- a) Calculate the **breadth** of the rectangle.

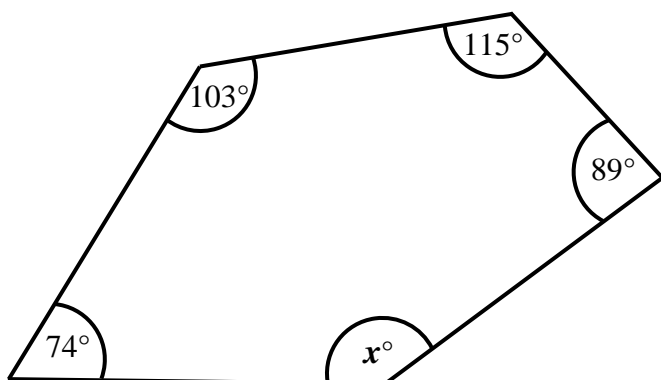
Ans _____ cm

- b) Calculate the **length** of the rectangle.

Ans _____ cm
(5 marks)

-
5. a) Show that the sum of the **interior** angles of a pentagon is 540° .

- b) Work out the value of angle x in this pentagon.



Ans _____

- c) In the space below:
- i) Draw a **circle** of radius 5 cm.
 - ii) Inscribe a regular **pentagon** inside the drawn circle.

- d) **Measure** one side of the pentagon, in centimetres, correct to 1 **decimal place**.

Ans _____ cm

- e) **Extend** any side of the pentagon and measure the **exterior angle**.

Ans _____ °

(12 marks)

6. Petra buys 3 ice creams at €3 each and 2 soft drinks.
Simon buys 2 of the same ice creams and 4 soft drinks.

Petra and Simon both spend the **same** amount of money on ice creams and soft drinks.



- a) Using **s** for the price of one soft drink write down an **equation** for the information above.

Ans _____

- b) **Solve** your equation to find the price of 1 soft drink.

Ans € _____

- c) How much do Petra and Simon spend **altogether**?

Ans € _____

(7 marks)

7. In December Linda weighs 72 kg and in January she starts a diet.

By the end of March she **loses 10%** of her weight but after Easter she **gains 5%** of her last weight.

How much does she weigh after Easter? Give your answer correct to the nearest kg.



Ans _____ kg

(5 marks)

8. Below is a timetable for bus route 71 from Valletta to Zurrieq.

Valletta - Zurrieq								
71								
Monday - Friday ↓								
← earlier later →								
Il-Belt Valletta +	12:00	12:20	12:40	13:00	13:20	13:40	14:00	14:20
Il-Floriana +	12:01	12:21	12:41	13:01	13:21	13:41	14:01	14:21
Il-Hamrun +	12:03	12:23	12:43	13:03	13:23	13:43	14:03	14:23
Il-Marsa +	12:05	12:25	12:45	13:05	13:25	13:45	14:05	14:25
Hal Luqa +	12:16	12:36	12:56	13:16	13:36	13:56	14:16	14:36
Hal Kirkop +	12:25	12:45	13:05	13:25	13:45	14:05	14:25	14:45
Hal Safi +	12:28	12:48	13:08	13:28	13:48	14:08	14:28	14:48
Iz-Zurrieq +	12:32	12:52	13:12	13:32	13:52	14:12	14:32	14:52

a) How **long** does the trip from Valletta to Zurrieq take?

Ans _____ mins

b) John is in Floriana and has an appointment in Hal Luqa at 14:30.
What is the **latest time** he needs to take the bus so that he arrives on time?

Ans _____

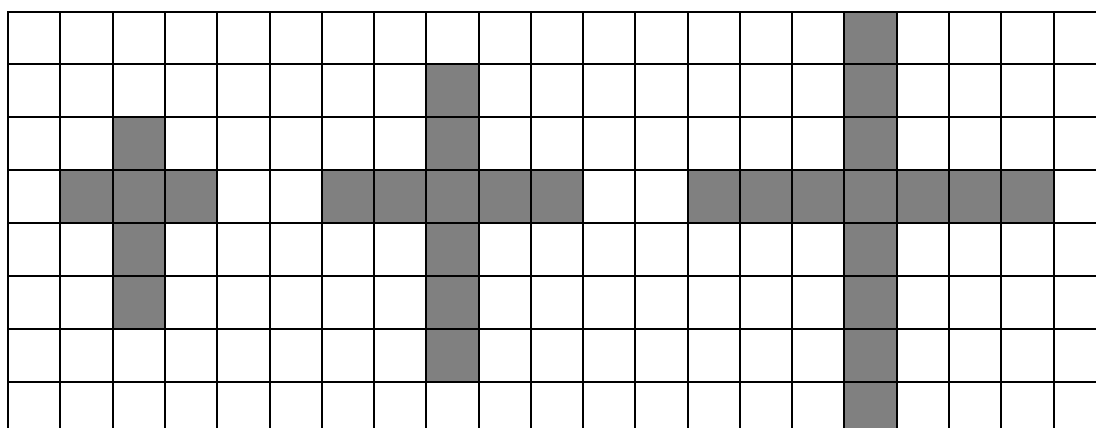
c) The driving distance between Hal Luqa and Hal Kirkop is 2900m.
At what **speed** is the bus travelling?
Give your answer in metres/min correct to the **nearest whole**.

Ans _____ metres/min

d) Bus route 71 leaves Valletta at 12:40 and arrives at Zurrieq at 13:12.
Bus route 74 leaves Valletta at the same time and arrives at Zurrieq at 13:17.
Give a valid reason why they don't both arrive at the same time.

(7 marks)

9.



Shape 1

Shape 2

Shape 3

- a) Fill in the table below with the number of squares needed to make the shapes in this sequence.

Shape Number	1	2	...	5
Number of squares				

- b) How many squares are needed to draw shape ***n***?

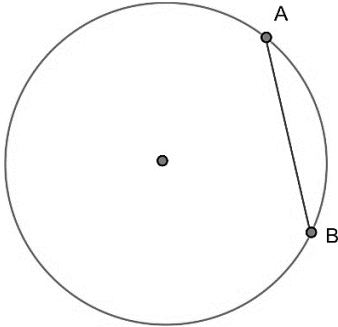
Ans _____ squares

- c) How many squares are needed to draw **shape 20**?

Ans _____ squares

(6 marks)

10. For each of the following statements, choose **True** or **False** and give an explanation for your choice.

	Statement	True or False	Explanation
a)	The complete factorisation of $12x + 18y$ is $3(4x + 6y)$.		
b)	$\frac{14}{35} \times \frac{15}{21} = \frac{4}{14}$		
c)	5 km/hr is equivalent to 5000 m/min.		
d)	$a^2 = a \times 2$		
e)	A square with sides 3 cm is similar to a square with sides 5 cm.		
f)	<p>AB is a sector of a circle:</p> 		

(12 marks)

11. The **actual** length of a Bugatti car is 4544 mm.
A **model** of this car is 142 mm long.



- a) Write down the ratio of the length of the **model** to the **actual** length of the car.

Ans _____ : _____

- b) **Simplify** your answer in part a).

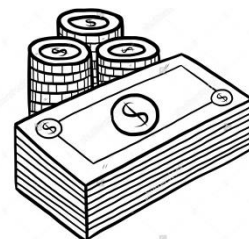
Ans _____ : _____

- c) Calculate the width of the **model** if the **actual** width of the car is 2016 mm.

Ans _____ mm

(5 marks)

-
12. Last year, Paul's monthly wage was €1200. This year, his new monthly wage is €1650.
Calculate the **percentage increase**.



Ans: _____ %

(3 marks)

END OF PAPER