OUTREACH SCHOOLS EXAMINATIONS BOARD

P.7 MOCK PREPARATION SET 2 TERM TWO

2023

MATHEMATICS

Time Allowed: 2hours 30 Minutes

Index No.

Candidate's Name: …………………………………………………………………………..

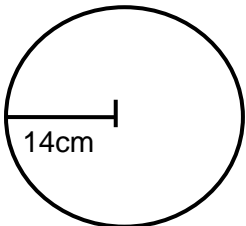**Candidate's Signature:** …………………………………………………………………..

Read the following instructions carefully:

1. The paper has **two** sections: **A** and **B**

2. Section **A** has 20 short questions (40 marks)

3. Section **B** has 12 questions (60 marks)

4. Answer **ALL** questions. All answers to both Sections A and B must be written in the spaces provided.

5. All answers must be written using a blue or black ball point pen or ink. Diagrams should be drawn in pencil.

6. Unnecessary alteration of work may lead to loss of marks.

7. Any handwriting that cannot be easily read may lead to loss of marks.

8. Do **not** fill anything in the boxes indicated for Examiner's use only.

SECTION A (40 marks)

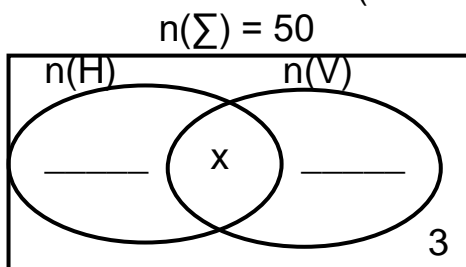|			
1.	Multiply: $\begin{array}{r} 1\quad 3 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$	2.	Write 121212 in words.
3.	Find the next number in the sequence. 7, 5, 3, 1, _____	4.	Express 54 as a Roman numeral
5.	Use π as $\frac{22}{7}$ to find the circumference of the figure below. 14cm	6.	Express 1824hrs as a 12 hour clock system.
7.	Given that XUY ={a,b,c,d,e,f,g,h} and set Y = {a,c,d,f}. List down all elements of set Y complement.	8.	Write $(2\times10^3)+(4\times10^2)+(5\times10^1)+(6\times10^0)$ as a single number.
9.	Given that a=5 and b=2a. find the value of ab	10	What speed is needed to cover a distance of 90km in 1 ½ hours?

11.	Given that PF$_x$ ={21,31,32}. Find the value of x.	12	Express 12½% as a common fraction to its simplest form.
13.	Jovitah is the sixth girl in the line for girls from either side. How many girls are in the line?	14	A milk biscuit weighs 200grams. Express its weight as kilogram.
15.	What is the square of 2.4?	16	The perimeter of a rectangle is 24cm. find its width if its length is 8cm.
17.	The probability of Lucky passing as examination is $\frac{4}{7}$. What is the probability of her failing the same examination?	18	The mean of 2 and x is 5. Find the value of x.

19.	Using a pair of compasses, a ruler and a pencil only. Construct an angle of 120^0 in the space provided below.		
20.	Represents 10 apples. Draw the picture apples that represent 45 apples.		

SECTION B (60 marks)

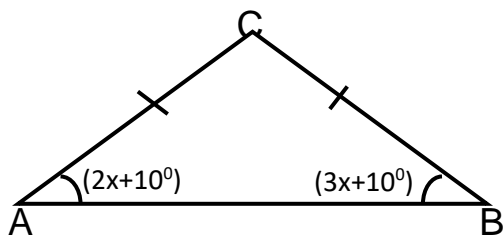| 21.	In a class of 50 pupils, 29 like Hockey(H), 22 like volley ball(V) and x like both games while 3 do not like any of the two games	22	Tom walked 54km in 3 days. He walked 2km more every day. Calculate the distance he walked in the first 2 days. (4marks)

21. a) Use the above data to complete the Venn – diagram below. (2marks)

$n(\Sigma) = 50$

n(H)　　　　　　n(V)

_____　(x)　_____

3

b) Find the value of x   (2marks)

23.	Micah, Zeno and Umutesi shared sh.960,000 in the ratio of 2:1:3 respectively. a) How much money did each get? (4marks)	24	a) Expand 65.14 using indices. (2marks)
			b) Simplify: $\dfrac{5^4 \times 5^3}{5 \times 5^5}$ (2marks)
	b) Express Umutesi's share as a percentage of the total share. (2marks)		c) Express 0.0025 as scientific notation. (2marks)

25.	Using a pair of compasses, a ruler and a well sharpened pencil only; a) Construct a quadrilateral ABCD such that $\overline{AB} = \overline{CD} = 8cm$ and $\overline{BC} = \overline{AB} = 6cm$ and $\angle DAB = \angle ABC = 90^0$ (4marks) b) Measure the length of diagonal AC. (1mark)
26.	Below is a triangle ABC, use it to answer questions that follow. C (2x+10⁰) (3x+10⁰) A B a) Name the type of triangle drawn above. (1mark) b) Find the value of x in degrees. (2marks) c) Work out the size of $\angle ACB$. (2marks)

27.	A motorist travels from town C to town B for 3 hours at an average speed of 75km/hr. due to rain, he slows down and travels at an average speed of 64km/hr for 2 ½ hrs from town B to town D.
	a) How far is town D from town A? (3marks)
	b) Calculate the average speed for the whole journey. (2marks)

28.	a) Simplify: $\dfrac{0.36 \times 0.12}{0.9 \times 0.48}$ (3marks)	29	Given that a=b=4. Find the value of;
			i) $(ab)^2$ (2marks)
			ii) $\dfrac{3a - b}{2}$ (2marks)
	b) Work out: $\dfrac{1}{2} - \dfrac{5}{6} + \dfrac{3}{4}$ (3marks)		

30. Complete the shopping list below.   (1mark each)

Item	Quantity	Unit cost	Amount
Sugar	2kg	Sh.3800each	Sh. _____
Soap	3 bars	Sh._____per bar	Sh.9000
Beans	_____kg	Sh.2400each	Sh.3600
Rice	2kg	Sh. _____	_____
Total bill			Sh.27000

31. a) Find the solution set for 3x > 12.   (2marks)

b) The temperature of a fridge was -10^0C and dropped by 5^0C. What is its temperature now?   (2marks)

32.	The class teacher P.7 yellow tallied the marks scored by in maths test tabulated below.		

Range of marks	tallies	frequency
80 – 85	‖‖ /	_____
86 – 91	_____	4
92 – 100	‖‖	_____

a) Complete the tally graph above.   (3marks)

b) How many pupils did the test?   (1mark)

c) If he gave a gift worth sh.2000 to every child who scored above 85. How much money did he spend on buying gifts?   (2marks)

"GOOD LUCK"