THE SIPRO PRE - PLE SET III 2022
MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

	Random No.	Personal No.
Index No.		

Candidate's Name _____

Candidate's signature: _____

School Random No _____

District ID: _____

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: A and B.
2. Section A has 20 questions (40 Marks).
3. Section B has 12 questions (60 Marks).
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens of ink. Only diagrams and graph work must be done in pencil.
6. Unnecessary alteration of work will 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"

Please turn over
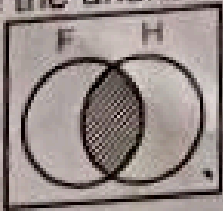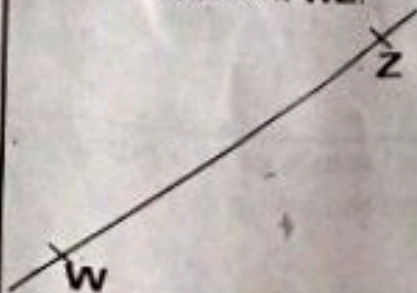
SECTION: 40 MARKS

Attempt all questions in this section
Questions 1 to 20 carry two marks each

1.	Work out. 31 + 47	2.	Write LXVI in Hindu-Arabic numerals.
3.	Find the next number in the sequence 2, 4, 12, 24, 72, ___	4.	Describe the unshaded region.
5.	Express 2,500ml to litres.	6.	Find the range of 3, -2, -1, -5, and -6
7.	Musa moved 6 steps **forward** and then **12 steps** backward. Find his new position.	8.	The cost of three books is sh.3600. Find the cost of a half dozen of similar books.

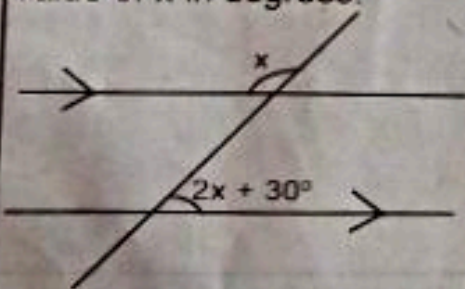|		
9.	Using a ruler, a pencil and a pair of compasses only, bisect the line segment WZ. Z W	10. If ⬭ represent $1\frac{1}{2}$ mangoes. Draw pictures to show 12 mangoes.

11. A practical lesson which ended at 8:27am took $1\frac{1}{3}$ hours.
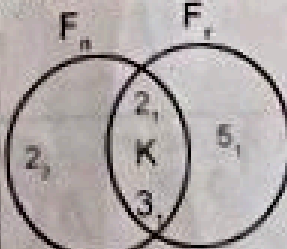
At what time did the lesson start?

12. Increase 1,800 goats in the ratio of 4:3.

13. In the diagram below, find the value of **x** in degrees. x $2x + 30°$	**14.** The school bursar issued receipt numbers from **MK 290** to **MK 349**. Find the total collection if each receipt she issued was worth **sh. 200,000**.

| 15.	Convert **12:40p.m** into **24** hour clock system.	
16.	The venn diagram below shows prime factors of two numbers. If the **GCF** of the two numbers is 18, find the value of **K**.	
17.	The diameter of a wheel is 28cm. How many revolutions will it make to cover a distance of 4.4km?	18 **Work out:** Hours minutes 5 2 0 -2 5 4 _____
19.	Solve the inequality $3 - 2p \geq 9$.	
20.	If today is **Wednesday**, what day of the week was 41 days ago?	

SECTION B: 60 MARKS

Attempt all questions in this section.

Marks for each part of the question are indicated in the brackets.

21. In a group of 37 pupils, 19 play football (F), 9 play both football and volleyball, 2y play volleyball (V), while y play other games.

a) Use the above information to complete the venn diagram below.

$n(\in) = 37$

$n(F) = 19$ $n(V) = 2y$
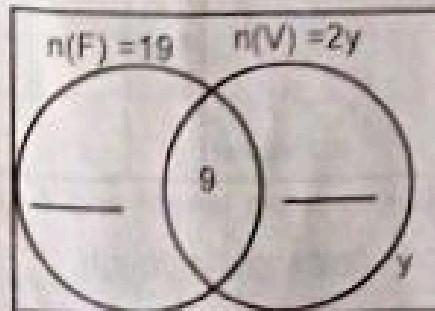
(02Marks)

b) How many pupils played volleyball only?

(03Marks)

22.a) Change $\frac{4}{11}$ as a recurrying decimal.	b) Simplify: $\dfrac{1.45 - 0.55}{0.08 + 0.28}$
(02Marks)	(03Marks)

23. a)	Express 21 to **binary** base	b)	Find the **sum** of the value of 9 and place value of **3** in **490,382**.
	(02Marks)		(03Marks)

24. Makula cut **7** pancakes along length and **4** pancakes along width of radius $3\frac{1}{2}$cm from a rectangular dough.

a) Calculate the **area** of used dough. (use=π $\frac{22}{7}$).

(03Marks)

b) Find the area of the **remaining** dough.

(02Marks)

25. a)	Given that P= 3k and K = 5, find the value of **2k + 3p.**	b)	Mary is **20** years older than Alice. In **15** years time, Mary will be twice as old as Alice. Find the **age** of Alice now.
	(02Marks)		(03Marks)

26. The table shows the **fractions** of textbooks in the school library
Study it carefully to answer the questions which follow

Subject	Fraction
Science	$\frac{1}{5}$
Mathematics	$\frac{1}{3}$
others	y

a) Find the value of y.

(02Marks)

b) Draw an accurate circle graph of radius **3.5cm** to show the above information.

(04Marks)

27. The table below shows the buying and selling rates of **currencies** at a forex bureau in Iganga.

Currency	Buying rate	Selling rate
1 US dollar	Ug.sh.3,500	Ug.sh.3,600
1Ksh	Ug. sh 30	Ug.sh. 34
1British pound	Ug. sh 4,200	Ug.sh 4,500

a) How much money will a trader get in Uganda shillings when he has 400 British pounds?

(02Marks)

|	
	b) If a watch cost **KSH. 30,000** Find the cost of this watch in US dollar.
	(03Marks)
28. a)	Use the number line below to subtract $-3 - ^+2$.
	(02Marks)
b)	Find the least number of cows such that when divided by 6 people, 3 cows remain, when divided by 8 people, 7 cows remain.
	(03Marks)
29 a)	Find the sum of composite numbers between **0** and **10**.
	(02Marks)
b)	Without diving, which of the two numbers is divisible by **7; 438** and **532**.
	(02Marks)

30. The table below shows the journey covered by a Baby Coach from town A to town E via towns B,C, and D. *Study it and answer questions that follow.*

Distance in km	Town	Arrival	Departure
O	A		8:00am
56	B	9:00am	9:45am
113	C	11:00am	11:20am
165	D	1:00pm	2:10pm
277	E	6:10pm	

a) Find the distance from town **C** to town **E**.

(02marks)

b) How long did the bus stay at town **D**?

(01mark)

c) Calculate the **average** speed of the bus from town **D** to town **E**.

(02marks)

31. In the figure below, line **BD** is parallel to line **AE**. Angle BCD = 70°, angle ADB = 25° and angle DEF = 130°. *Study the figure carefully and answer the questions that follow.*
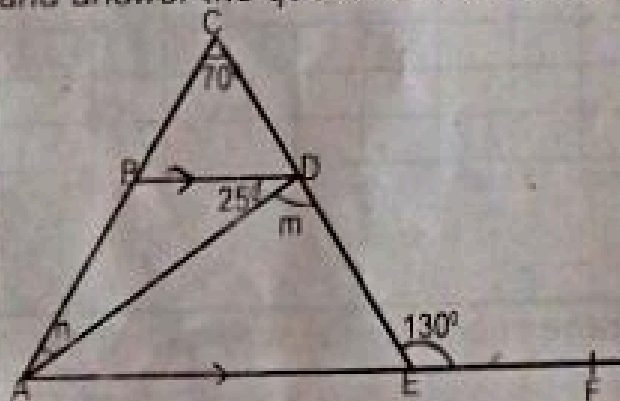
a) i) Work out the size of angle **m**.

(02marks)
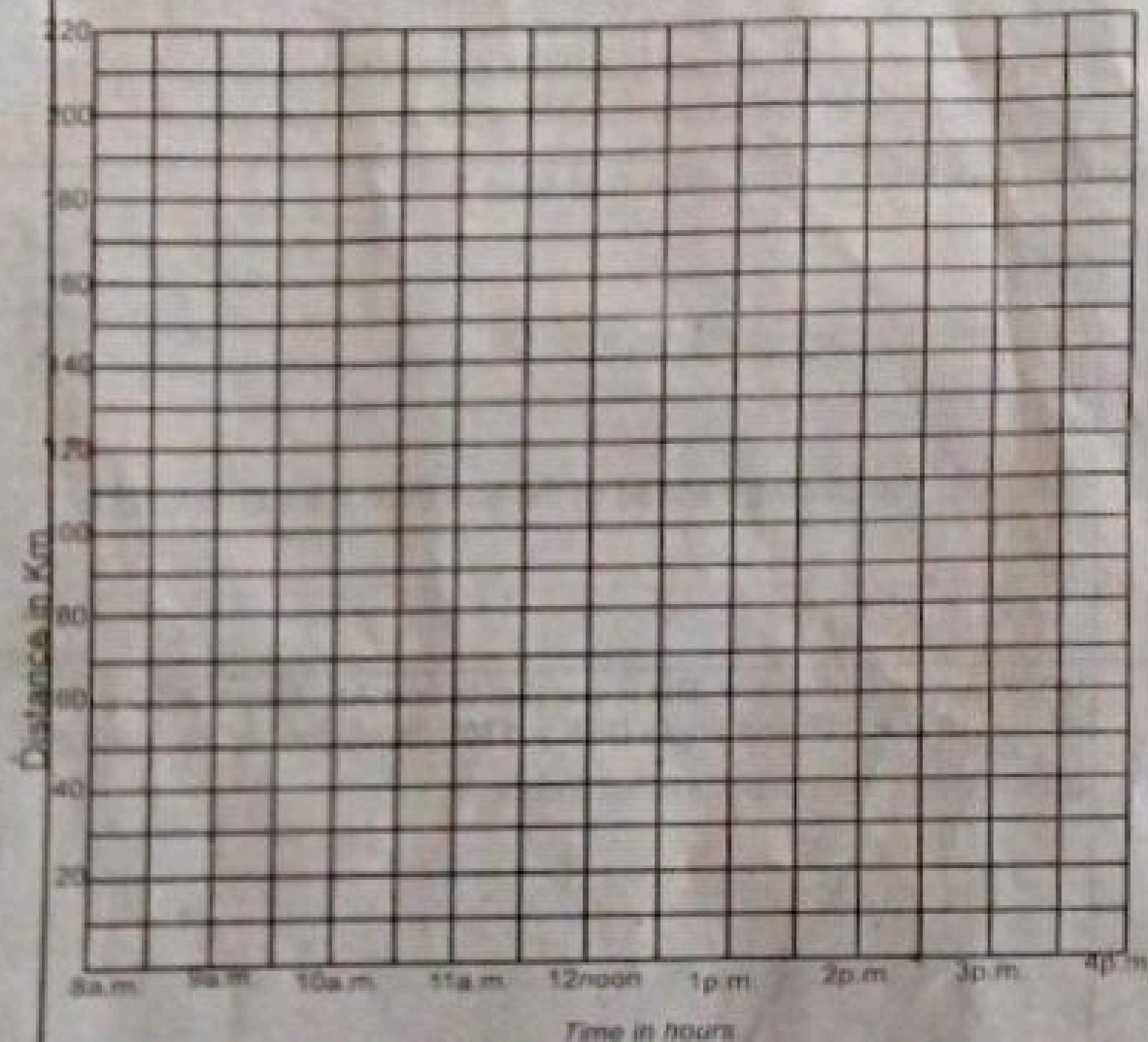
(ii) Find angle **n**.

(03marks)

32. Kangonya left town **X** at **8:00am** and drove at **90km/h** for one hour to town **Y**. He rested to half an hour at town **Y**. He left town **Y** and drove for one hour at a speed of **70km/h** to town **Z**. He rested for half an hour at town **Z**. He then left town **Z** and drove back to town **X** at a steady speed of **40km/h**.

a) Draw Kangonya's journey on the graph provided.   (03marks)

Time in hours

b) Work out Kangonya's **average** speed for the whole journey.

(02marks)