

THE SIPRO PRE-PLE SET IV - 2023

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.

Random No.						Personal 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 or 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"

For Examiner's Use Only;

Qn No	MARKS	INITIALS
1-5		
6-10		
11-15		
16-20		
21-22		
23-24		
25-26		
27-28		
29-30		
31-32		
Total		

Please turn over



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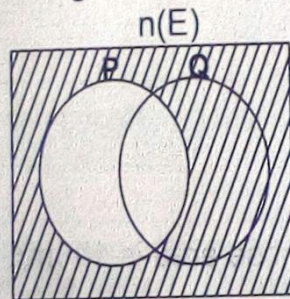
SECTION A: 40 MARKS

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

1. **Work out:** 85 minus 52.

2. Write **4,099** in words.

3. In the venn diagram below, describe the shaded part.

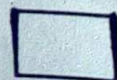


4. **Work out:** $3 \div 4 = \underline{\hspace{1cm}}$ (finite 5)

5. Find the **next** number in the sequence:

8, 27, 64, 125, $\underline{\hspace{1cm}}$

6. Round off **849.8** to the nearest ones.



7. Using a ruler, pencil and a pair of compasses only, construct an angle of 105° in the space provided below.

8. Simplify: $P^{-3} \div P^{-2}$

9. Calculate the perimeter of a **square** room whose area is 196m^2 .

10. Find the simple interest on **sh.480,000** at a rate of $2\frac{1}{2}\%$ per month for 3 months.

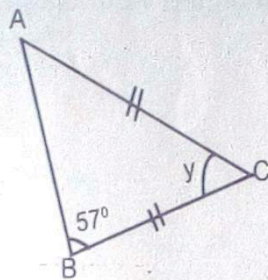


11. **Simplify:** $9y - (4 + y)$
12. Work out the distance covered by a car moving at a speed of 96km/h for 3hours 15minutes.
13. Mubiru scored the following marks;
83, 75, 80, 70 and 25.
Find the **range** of his scores.
14. In a supermarket, the price of a shirt was reduced from **sh.36,000** to **sh.30,000**. Find the percentage decrease.
15. Write **0.089** in scientific notation.



16. A bus left town **A** at 11:10 a.m and arrived at town **B** at 1:40 p.m.
How long did the bus take?

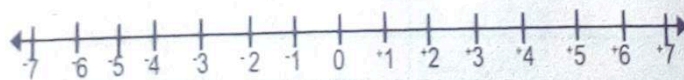
17. Calculate the value of the angle marked **y** in the triangle **ABC**.



18. The capacity of a cylindrical water tank is **0.72** litres.
Express its volume in cubic centimeters (cm^3).

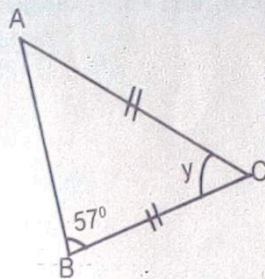
19. UMEME charges **sh.350** for each 15 units of power consumed.
Andrew paid **sh.8,7500**, how many units did he use?

20. Draw arrows on the number line to show the mathematical statement for $+4 + -7 = -3$.



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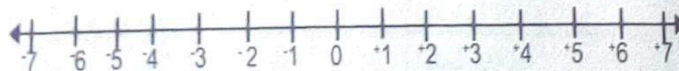
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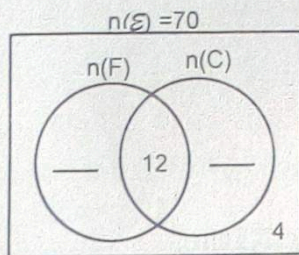
SECTION B: 60 MARKS

Attempt all questions in this section.

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

21. In a church, 70 people attended the morning service, soda was served, 40 people took Fanta (F), K people took Coke (C), 12 people took both kinds of soda, while 4 people did not take any of the two drinks.

a) Represent the information above on the venn diagram below. (02Marks)



b) Find the **probability** that a person who said a prayer drank Coke only. (03Marks)

22. a) Given the digits 4, 0 and 5. Write all the possible 3 digit numbers that can be formed using the above digits without repeating any.

(04Marks)

b) Subtract the **smallest** from the **largest** 3 digit number formed.

(01Mark)



23. a) Using a pair of compasses, a ruler and a pencil only, construct a parallelogram **ABCD** in which **BC** = 7.5cm, **BA** = 4.5cm and angle **ABC** = 120° . Drop a perpendicular line from **D** to meet **BC** at **K**. (04Marks)

b) Measure the length **DK**. (01Mark)

24. a) John spent $33\frac{1}{3}\%$ of his salary on fees, $\frac{2}{5}$ of the remainder on rent and saved the rest. If he saved **sh.300,000**, find his salary. (05Marks)

25. The table below shows different denominations Monica had before shopping. Study and use the information to answer the questions that follow.

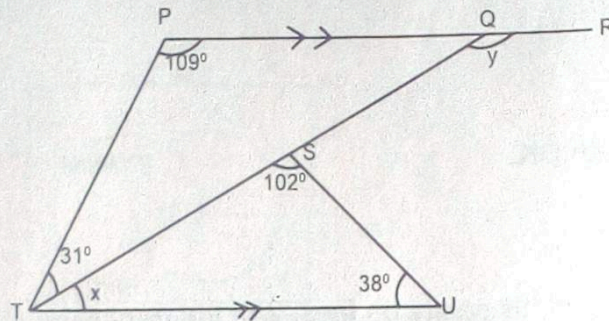
a) Complete the blank space in the table below. (03Marks)

Denomination	Number of notes	Amount
sh.10,000	4	sh.40,000
sh.20,000	_____	sh. 60,000
sh._____	5	sh.25,000
Total		sh._____



- b) If Monica used 90% of the total amount for shopping and sh 4,500 for transport, how much money did she remain with? (02Marks)

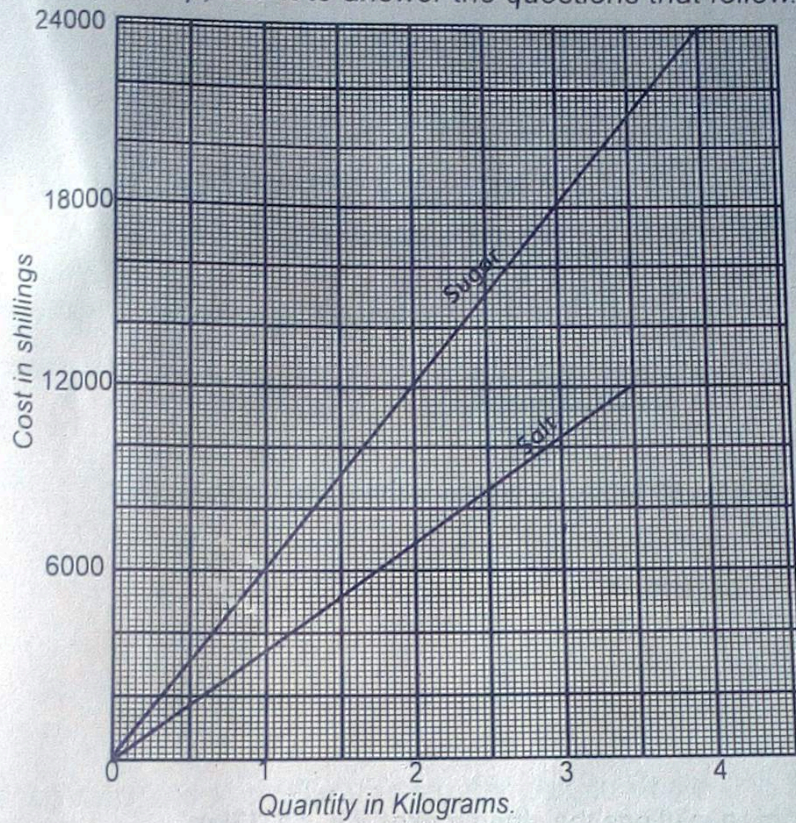
26. $\triangle PQT$ and $\triangle TSU$ are triangles where line PR is parallel to line TU .
Use it to answer the questions that follow.



- a) Find angle marked X . (02Marks)

- b) Calculate the size of the angle marked y . (02Marks)

27. The graph below shows the cost and quantity of sugar and salt at a shop; use it to answer the questions that follow.



a) Find the cost of $2\frac{1}{2}$ kg of sugar.

(02Marks)

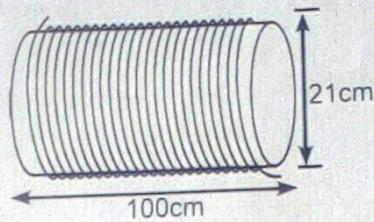
b) How many kilograms of salt does sh.9000 buy?

(02Marks)



- c) Find the difference in amount for 4kg of sugar and 4kg of salt?
(01Mark)

28. In the diagram below, a string is **wound** round a cylindrical pipe of diameter 21cm.



- a) If the string is wound up **50 times**, how long is the string? (02Marks)

- b) Find the number of revolutions the string makes if it is **1.32km**.

(03Marks)

- 29.a) Subtract $2k-5$ from $3k+1$

(02Marks)

b) Solve the equation:

(02Marks)

$$\frac{2(x-3)}{4} = 6$$

30. The distance between Kampala and Mbale is 270km. A bus used 5 hours to and from;

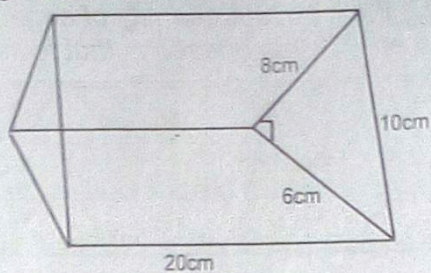
a) Find the average speed of the bus.

(02Marks)

- b) If it used a speed of 90km/h from Kampala to Mbale, find the speed it used while returning.

(02Marks)

31. Use the triangular prism below to answer the questions that follow.



- a) Find the **sum** of the length of all its edges.

(03Marks)

- b) Calculate its **volume**.

(02Marks)

32. A director of a school received **100** shares from his teachers at a simple interest rate of 10% per annum. If each share was valued at sh.10,000;

- a) Find the interest after **3 years**.

(03Marks)

- b) Calculate the **total** amount of money the director gave back to the teachers after 3 years.

(02Marks)

