THE SIPRO PRE-PLE SET IV - 2024
MATHEMATICS

Time Allowed: *2 Hours 30 Minutes*

	EMIS No.					Personal No.		
Index No.								

Candidate's Name: _____

Candidate's Signature: _____

School EMIS 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 -8		
29-30		
31-32		
Total		

Please turn over

SECTION A: 40 MARKS
*Attempt **all** questions in this section.*
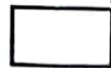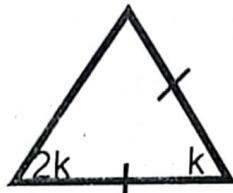*Questions **1** to **20** carry **two** marks each.*

1. **Work out:** $50 \div 5$.

2. Write **seven hundred thirty four** in Roman numerals.

3. **Simplify:** $3k + 7r - 4k + 5n$.

4. Write **909,909** in words.

5. In the triangle below, find the value of **k** in degrees.

6. **Work out:** $111_{two} \times 10_{two}$

7. A dice is tossed once. Find the probability that an odd number will appear on top?

8. The clock face below shows time in the morning.

Write the time shown in 24-hour clock.

9. In the space given below, draw an angle of 75^0 using a ruler, a pencil and a protractor.

10. Express **4.5 litres** into millilitres.

11. The diagram below shows the length of the stride a certain boy makes while walking.

1metre

How many such strides does he make to cover a distance of 800cm?

12. Change 15_{ten} to binary base.

13. Find the smallest number that leaves **5** as a remainder when divided by **6,8** and **12**.

14. A dozen of exercise books costs **sh.14,400**. Find the cost of **6** similar exercise books at the same rate.

15. In a P.5 class at St. Andrews Molly Foundation School Pabo, the ratio of boys to girls is 3:2 respectively. Find the number of girls if there are 36 boys in that class.

16. **Work out:** 4 - 0.48.

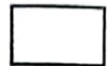17. Find the solution set for: **m + 2 < 6.**

18. Three men can dig a garden in 20 days. How many men working at the same rate can dig the same garden in 12 days?

19. The profit of an item sold at **sh. 20,000** was **sh. 5,000.** Calculate the cost price of the item.

20. When **Juma** was instructed by the teacher to form all the possible proper subsets from set H, Juma formed 7 proper subsets and the teacher awarded him all the marks for that question. How many elements did **Juma** use to form the proper subsets?

SECTION B: 60 MARKS
Attempt **all** *questions in this section.*
Marks for **each part** *of the question are* **indicated** *in the brackets*

21. a) At 5:00a.m, the temperature on top of a mountain was -4^0c and by 11:00a.m, it had risen by 9^0c. Find the new temperature. *(02 marks)*

b) A Sipro mathematics conference that started on Monday lasted 10 days. On what day of the week did it end? *(03 marks)*
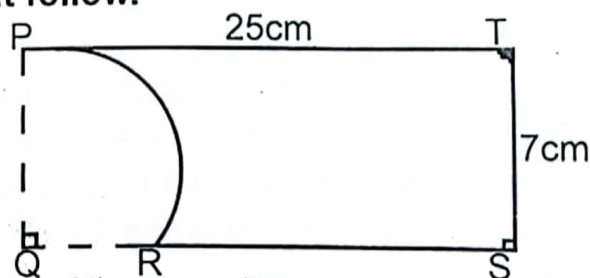
22. Kasadha spends his daily income as follows:
water sh. 2,500, bread sh. 3,500, bananas sh.4,000 and saves
sh. 2,000.Draw a pie chart of radius 3.5cm to represent the
above data. *(06 marks)*

23. Fatuma deposited some money in a bank that offers an interest rate
of 10% per annum for a period of 2 years. Find the amount she
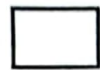deposited if she withdraws all her amount of sh. 120,000. *(04 marks)*

24. **Study the figure below carefully and use it to answer the
questions that follow.**

a) Find the length of the curve PR.
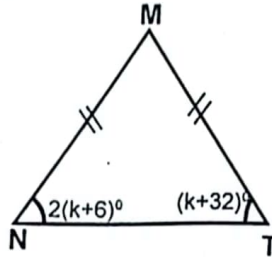$$\left(\text{Take } \pi = \frac{22}{7}\right)$$
(03 marks)

b) Work out the distance around the figure **PTSRP**. *(03 marks)*

25. **MTN** is an isosceles triangle. *Study and use it to answer the questions that follow.*

a) Find the value of **k**. *(02 marks)*

b) Work out the size of angle **NMT**. *(03 marks)*

26. a) A watermelon weighs **17kg**. Kamoga cut it into three pieces. When he weighed the pieces, one of the pieces weighed **2kg** heavier than the smallest piece and the other 6kg heavier than the smallest piece. Find the mass of the smallest piece.
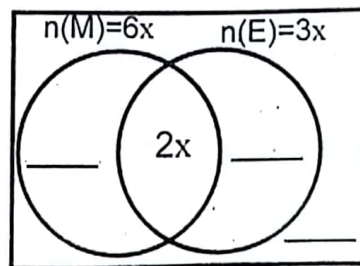
(03 marks)

b) **Solve:** 4n < 16.

27. The Venn diagram below shows the number of pupils who like English (E), Mathematics (M) and other subjects in a P.5 class at Blessed Future Primary School, Kazinga. (6x) pupils like Mathematics (M), (3x) pupils like English (E), 2x pupils like both subjects while the number of pupils who like neither of the two subjects is equal to that of those who like English only. If you subtract the number of pupils who like English only from that of those who like Mathematics, you get 25 pupils.

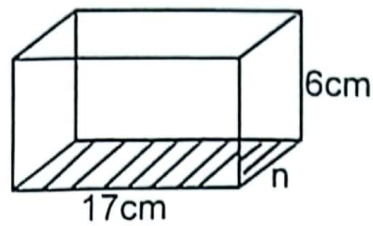(a) Complete the venn diagram below. (03 marks)

n(M)=6x   n(E)=3x

2x

(b) Find the value of **x**. (02 marks)

28. The volume of the cuboid below is 918cm³. Find the area of the shaded part.

6cm

17cm

n

29.A motorist driving at **72km/hour** took **5** hours to cover the journey from Kampala to Jinja. He then returned to Kampala driving at 120km/h.
(a) How far is Jinja from Kampala?   *(02 marks)*

(b) Calculate his average speed for the whole journey.   *(03 marks)*

30. In a test, a teacher awarded 5 marks for every correct answer and subtracted 2 marks for every wrong answer. The test paper had 20 questions.

a) Find Rhyan's score if he got 17 correct answers. (02 marks)

b) If Rauder got 51 marks, how many correct answers did she get?

(03 marks)

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31. In the Old and the New Taxi Parks, there are **60** and **90** taxis respectively. The top management of the taxis in Uganda would like to group the taxis into small groups of equal number of taxis and appoint a leader for each small group of taxis.

a) Find the maximum number of **taxis** that can be put in each group without any **taxi** remaining. (02 marks)

b) How many groups will be formed from the taxis in the New Taxi Park? *(02 marks)*

32. Namuleme Shanitah went shopping and bought the following items for each of her twin boys;

ITEM	QUANTITY	UNIT COST	AMOUNT
shoes	2 pairs	sh.30,000 each pair	sh._____
stockings	4 pairs	sh. 8,000 each pair	sh.32,000
blankets	1 piece	sh. 90,000 each piece	sh.90,000
Total			sh._____

a) Complete the above table. *(02 marks)*

b) Calculate her change if she went with ten notes of 50,000 shillings each. *(03 marks)*