

MATHEMATICS

PRE-PLC SET IV (FOUR) 2024

Time Allowed: 2 Hours 30 Minutes

Random No.						Personal No.		

Candidate's Name: _____

Candidate's Signature: _____

District ID No.

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Read the following instructions carefully.

1. This paper has two sections: **A** and **B**. Section **A** has **20** questions (**40marks**) and section **B** has **12** questions (**60marks**).
2. All the working for both sections **A** and **B** must be shown in the spaces provided.
3. All working must be done using a blue or black ball point pen or ink. Any work done in pencil other than graphs and diagrams will not be marked.
4. **No calculators** are allowed in the examination room.
5. Unnecessary changes of work may lead to loss of marks.
6. Any handwriting that cannot be easily read may lead to **loss of marks**.
7. Do not fill anything in the boxes indicated: **"For Examiner's Use Only"** and those inside the question paper.

"FOR EXAMINER'S USE ONLY"		
Qn. No.	MARKS	EXR'S NO.
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

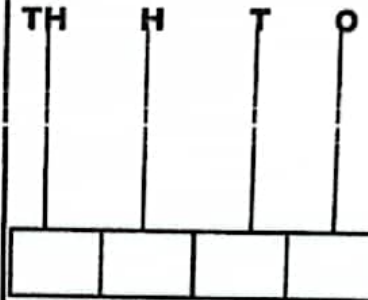
SECTION A. (40MARKS)

1. Workout: 421×2

6. Subtract $2x - 7$ from $3x - 10$.

2. Write 150,693 in words.

7. Draw beads on the abacus below to represent 4608



3. Simplify: $^{\circ}8 - ^{\circ}3$

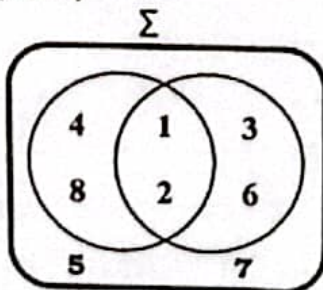
8. In a school of 480 pupils, 40% are boys and the rest are girls. How many girls are in the school?

4. Find the next number in the sequence

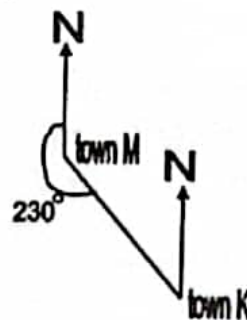
256, 64, 16, 4 _____

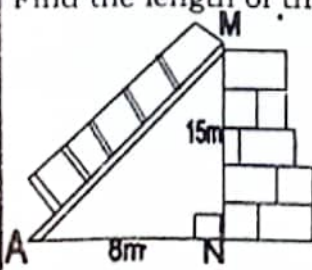
9. Workout: $1001_{\text{two}} + 11_{\text{two}}$

5. Use the venn diagram below to find $\Sigma(\text{ROW})$



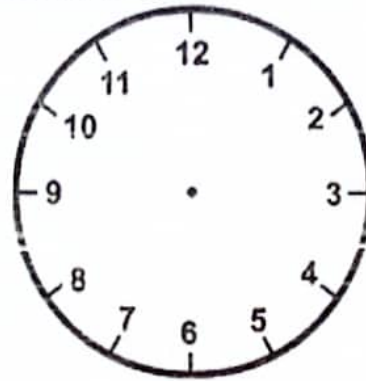
10. The diagram below shows the location of town K and town M. Find the bearing of town M from town K



11	Find the number whose scientific form is 7.08×10^4	15	The average mass of the three girls is 45kg . Two of them weigh 42kg and 47kg respectively. Find the mass of the third girl.									
12	If a tin contains 250ml of porridge, how many litres would two dozen such tins contain?	16	Below are the prime factors of x and y . Use them to answer the questions that follow. $x = 3^2 \times 5$ $y = 2 \times 5^2$ Find the Lowest Common Multiple (LCM) of x and y .									
13	6 men can dig a field in 4 days . How many more men will be required to dig the field in one day?	17	Complete the table below correctly. <table border="1"><thead><tr><th>Distance</th><th>Time</th><th>Speed</th></tr></thead><tbody><tr><td>10km</td><td>2h</td><td></td></tr><tr><td></td><td>3h</td><td>60km/h</td></tr></tbody></table>	Distance	Time	Speed	10km	2h			3h	60km/h
Distance	Time	Speed										
10km	2h											
	3h	60km/h										
14	Below is the ladder AM leaning against a wall MN as sketched below. Find the length of the ladder AM . 	18	Using a ruler, a pencil and a pair of compasses only, construct an angle of 105° in the space below.									

- 19 A trader made a loss of sh. 5000 on selling a blouse at sh. 37000. Calculate the trader's buying price for the blouse.

- 20 Show 25 minutes to 3 O'clock on clock face below.

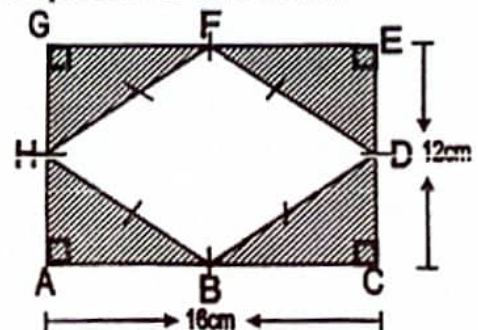


SECTION B. (60MARKS)

- 21 (a) Write $\frac{1}{3}$ as a recurring decimal fraction. (02marks)

- (b) Simplify: $\frac{2.2 \times 0.45}{0.5 \times 0.6}$ (03marks)

- 22 Study the diagram below and answer the questions that follow.



- (a) Find the area of the quadrilateral HBDF. (02marks)

- (b) Calculate the area if the shaded part. (03marks)



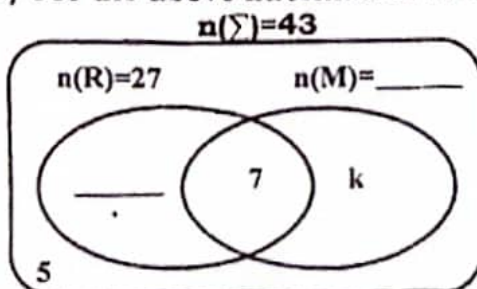
- 23 Amos went to the market and bought the following items:
 2 flasks each at sh. 35000
 $1\frac{1}{2}$ kg of sugar at sh. 6000 per kg.
 $2\frac{3}{4}$ kg of millet flour at sh. 4000 per kg.
 (a) Calculate the total cost of all items. (04marks)

(b) If Amos paid sh. 81000, calculate his percentage discount. (02marks)

- 24 The sum of 4 consecutive natural numbers is 58. If the third of them is n
 (a) Find the value of n . (02marks)

(b) Find the product of the highest and smallest of these numbers. (03marks)

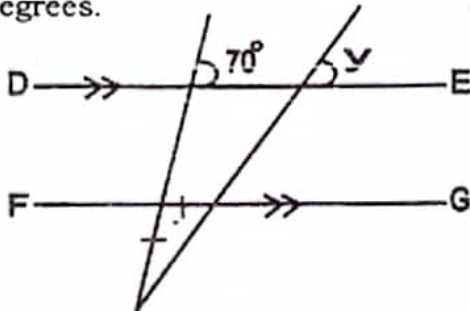
- 25 In a class of 43 candidates, 27 eat rice (R), k eat matooke (M) only, 7 candidates eat both rice and matooke while 5 do not eat any of the two dishes.
 (a) Use the above information to complete the venn diagram below. (02marks)



(b) Find the value of k . (02marks)

(c) What is the probability that a candidate picked at random to give a speech eats one type of dish only. (02marks)

26 (a) In the diagram below, line DE is parallel to line FG . Find the size of angle y in degrees. (02marks)

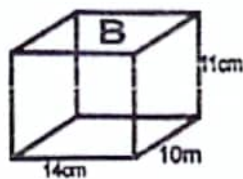
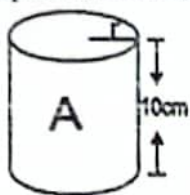


(b) An exterior angle of a regular polygon is $\frac{1}{4}$ of its interior angle. Find the size of its exterior angle. (02marks)



27 A farmer spends $\frac{1}{3}$ of his monthly income to purchase farm tools, $\frac{1}{4}$ of it on farm workers, 48% of the remainder on repairs and saves sh. 104000. Calculate the farmer's monthly income. (05marks)

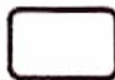
- 28 Below are two solid figures with the same volume. Use them to answer the questions that follow.



Find the radius (r) of solid figure (A)
(Use π as $\frac{22}{7}$) (05marks)

- 29 (a) Given that $x=2$, find the value of p .
 $3x + px - 7 = 11$. (02marks)

(b) Lubega is 15years younger than Namuyiga. In 10years time, their total age will be 65years. How old is Lubega now? (03marks)



- 30 A tourist left town M and travelled 60km westwards to town N. He then turned on a bearing of 230° and travelled to town K which is 70km away.
(a) Draw a sketch diagram to show the tourist's journey. (01mark)

(b) Using a scale of 1cm to represent 10km, draw an accurate diagram to show tourist's journey. (03marks)

(c) Find the bearing of town K from town M.

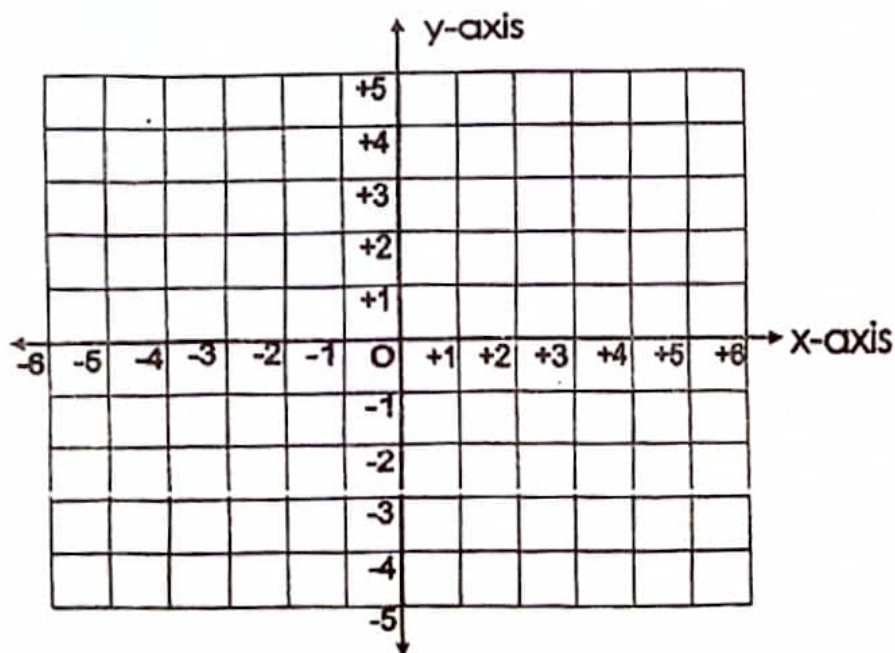
(01mark)

31 A motorist covered a distance of 130km from 5.35pm to 7.19pm. Calculate his average speed.

(04marks)

32 (a) Plot points Y (-4, -3), W(-1, +3), N(+5, +3) and A(+2, -3) on the cartesian grid shown below.

(04marks)



(b) Join point Y to W, W to N, N to A and A to Y. Name the special quadrilateral formed.

(02marks)

-END-