

STEM EXAMINATIONS BOARD

PRE-PRIMARY LEAVING EXAMINATION SET XII, 2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No.	Random No.					Personal No.		

Candidate's Name:

Candidate's Signature:

District ID No:

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Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has **two** sections: A and B. Section A has **20** questions and Section B has **12** questions. The paper has **8 printed pages** altogether.
3. Answer **all** questions. **All** the working for both sections A and B must be shown in the spaces provided.
4. **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.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot easily be read may lead to loss of marks.
7. Do not fill anything in the table indicated: **"For Examiners' use only"** and boxes inside the question paper.

FOR EXAMINERS' 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 : 40 MARKS.

Answer **all** questions in this section.

Questions 1 to 20 carry **two** marks each.

1. Work out:

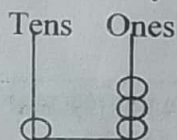
$$\begin{array}{r} 6102 \\ + 584 \\ \hline \end{array}$$

2. Subtract: $y + 7$ from $3y - 7$

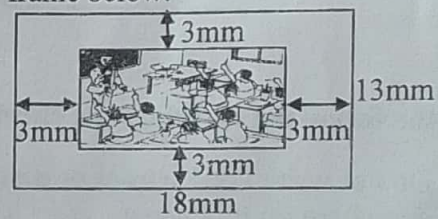
3. Given that $n(K) = 5$ elements
How many subsets are in set K?

4. Calculate the mean of $14, x, 2x - 4, x + 10$ and $5 + x$.

5. Convert the numeral shown on abacus below to binary base.



6. Work out the perimeter of the photo in the frame below.

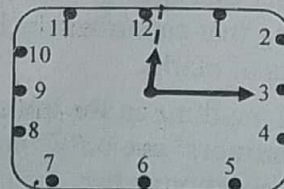


7. Write 308.4×10^{-3} as a single numeral.

8. Express $1\frac{3}{4}$ kg of posho to grammes.

9. Given the prime factors of A and B as;
 $F_A = 2^2 \times 3 \times 5$
 $F_B = 2 \times 3^2 \times 5$
Find the Greatest Common Factor (GCF) of A and B.

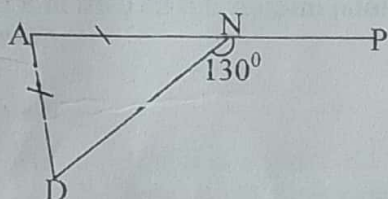
10. Change the morning time shown on the clock face below to 24-hour clock system.




11. A Head teacher gave out two money offers to the best performing candidate in an examination;
 (i) First offer = Ug Shs. 10,000 only.
 (ii) Second offer = Ug Shs. 1500 per day for a week.
 Which of the two is the lowest offer?

12. Tap T takes 5 minutes to draw water from the tank while tap Q takes 4 minutes to fill it fully with water.
 How many minutes will it take to fill the tank if both taps are opened at the same time?

13. Work out the size of angle DAN in degrees.

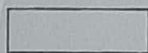


14. Given that   stands for 14 tomatoes, Draw tomatoes that represent 35 tomatoes.

15. Write " $(1 \times 10^2) + (4 \times 10^1) + (9 \times 10^0)$ " in Roman numerals.

16. Solve for the value of \square ;
 $3 \div 4 = \square$ (finite 7)

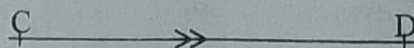
17. Express $0.\overline{63}$ to a rational number in the lowest form.



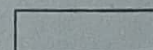
18. Without dividing, show that 1404 is divisible by 3.

19. Given that $t = -8$, simplify $2t^2 - 18$.

20. Using a ruler, a pencil and a pair of compasses only, construct a line AB through point X parallel to line CD below.



X



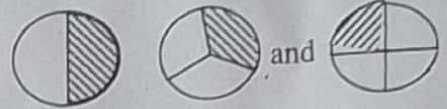
SECTION B : 60 MARKS

Answer **all** questions in this section.
Marks for each question are indicated in the brackets.

21. (a) Simplify: $\frac{0.4 + 0.05}{0.03}$

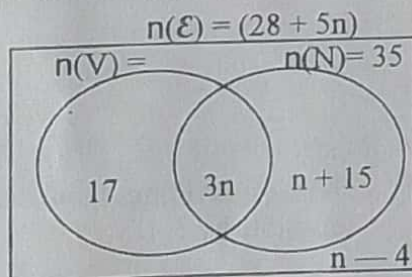
(2 marks)

(b) Arrange the shaded fraction strips below in decreasing order. (2 marks)



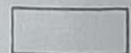
(c) RDC bought 100 shares from a District SACCO at a simple interest rate of 10% per annum. If each share costs Shs. 5000, what total interest did he earn in a period of $1\frac{1}{2}$ years? (2 marks)

22. The Venn diagram below represents the number of tourists who visited source of the Nile (N) and Victoria (V).



(a) How many tourists are represented in the Venn diagram above? (3 marks)

(b) Find the probability of selecting a tourist at random who visited neither source of Nile nor victoria. (2 marks)



23. (a) Two pupils planted flowers 15 metres apart in a school compound.
If they planted 18 flowers each in one line, what total distance did they cover?
(2 marks)

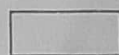
- (b) Use distributive property to work out;
 $\left(\frac{3}{4} \times 11\right) + \left(\frac{3}{4} \times 9\right)$ (2 marks)

- (c) The sum of three consecutive odd numbers is 45.
Find the least number. (2 marks)

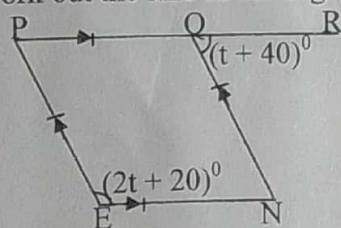
24. (a) Abdul is 4 years old while Andrew is 13 years old.
After how many years will Andrew be twice as old as Abdul? (2 marks)

- (b) Solve the inequality; $2r - 3 \leq 9$ (2 marks)

25. (a) Work out the size of the angle PEN in degrees.



(3 marks)



- (b) The interior angle sum of a regular polygon is 1260° . Calculate its exterior angle.
(3 marks)

26. The exchange rates at Crane Bank Forex bureau are as follows;
- (i) 1 Kenya Shilling costs Ug Shs. 28
 - (ii) 1 US dollar (\$) costs Ug Shs. 3700
 - (a) A text book costs 500 Kenya shillings. How much will John pay for 2 similar text books in Uganda Shillings? (2 marks)

- (b) Joan had 70 US dollars. How much Kenya Shillings can she get from the forex bureau? (3 marks)

27. The two milk cans X and Z below hold the same amount of milk when filled up completely.



- (a) Find the width (w) of milk Can Z. (3 marks)
- (b) Calculate the capacity of Can X when completely filled up with milk. (2 marks)

28. Cecilia and Tom's age are in the ratio 11 : 8 respectively now. In 16 years ago, their age was in the ratio 7 : 4. Work out the sum of their ages now. (4 marks)

29. The table below shows a parents journey from village via town to school.

STATION	ARRIVAL TIME	DEPARTURE TIME
Village	11 : 15a.m
Town	12 : 50 noon	2 : 00p.m
School	4 : 45 p.m

- (a) For how long did the parent rest in town?

(2 marks)

- (b) If she travelled at an average speed of 90km/hr from village to school, what distance did she cover?

(3 marks)

30. With the help of a ruler, a sharp pencil and a pair of compasses only, construct a rhombus PQRS where line PQ = 5.5cm and angle PQR = 120° .

(4 marks)

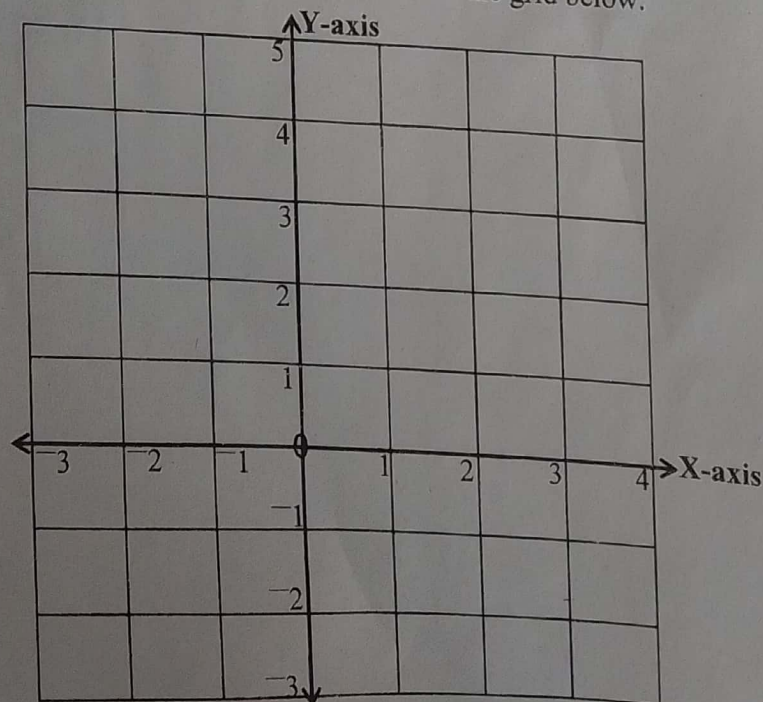


31. A herdsman constructed a circular kraal covering an area of 1386m^2 using poles at a cost of Shs. 3000 per pole.
- (a) Find the radius of the kraal. (2 marks)
- (b) If all poles on the kraal were planted 4 metres apart, how much did he spend on poles altogether? (3 marks)

32. Given the equation of a line; $y = x + 2$
- (a) Form pairs of co-ordinates from the table below. (3 marks)

X	-2	-1	0	1	_____
Y	0	1	_____	_____	5

- (b) Plot the above pairs of co-ordinates on the grid below. (2 marks)



END