

STEM EXAMINATIONS BOARD

PRE-PRIMARY LEAVING EXAMINATION SET XIII, 2023

MATHEMATICS

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. 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. Add: $303 + 43$

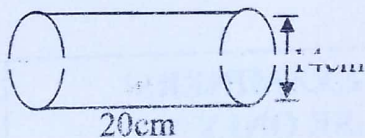
2. Solve for k: $11 - k = 5$

3. Given the sets: $M = \{b, r, e, a, d\}$
 $N = \{b, e, a, d, s\}$

Find $n(M)'$

4. Work out the sum of all prime numbers between 80 and 90.

5. Calculate the volume of the cylinder below.



6. Write 103013 in words.

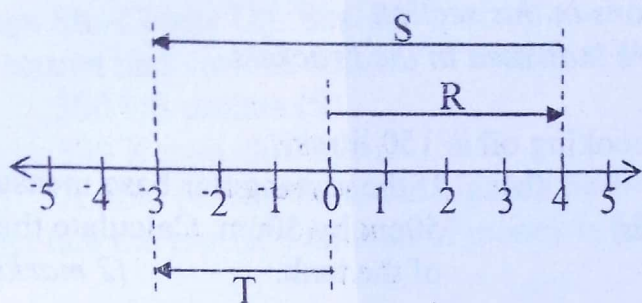
7. Abdul will celebrate his birthday next week, what is the probability of him celebrating on a day that starts with letter "T".

8. Tap K takes 4 minutes to fill water in a tank while tap B take 5 minutes to draw water from the tank. How many minutes will it take to fill the tank if both taps are opened at the same time?

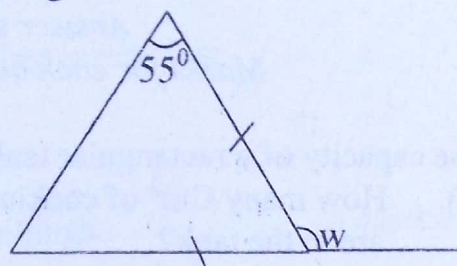
9. If $\frac{1}{2}$ dozen of books cost Shs. 9000. How many similar books can be bought with Shs. 16,500?

10. Express $9.03 \times 10^{+3}$ as a single numeral.

11. Write the mathematical statement represented on the number line below.



12. Solve for the size of angle marked w in degrees.



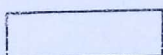
13. Find the square root of $1\frac{24}{25}$

14. Given that $m = 1.2$ and $n = 2$;
Simplify; $5m - n$

15. Work out: $\frac{1}{2} - \frac{1}{3} + \frac{2}{5}$

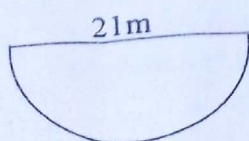
16. Convert CMXLV into Hindu-Arabic numerals.

17. An assembly started at 8:25a.m and lasted for 50 minutes. At what time did it end?



18. Arrange $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ in ascending order.

19. Calculate the distance round the figure below.



20. Using a ruler, a pencil and a pair of compasses only, construct an angle of 255° in the space below.

SECTION B : 60 MARKS

Answer **all** questions in this section.

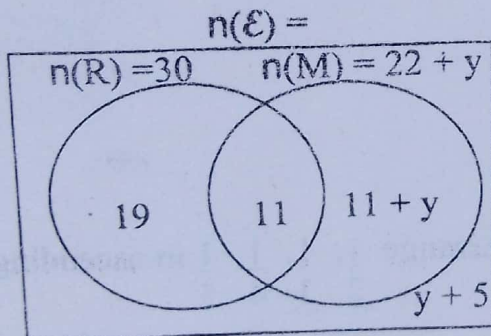
Marks for each question are indicated in the brackets.

21. The capacity of a rectangular tank full of cooking oil is 150 litres.

(a) How many Cm^3 of cooking oil are in the tank? (2 marks)

(b) If the rectangular base measures 50cm by 50cm. Calculate the height of the tank. (2 marks)

22. Use the Venn diagram below showing number of visitors who ate rice (R) and matooke (M) at a party.



(a) If those who ate rice only are equal to those who did not eat any of the two meals, find the value of y . (2 marks)

(b) How many visitors attended the party? (2 marks)

23. Given that the exchange rates at the forex bureau are as below;
 US dollar (\$) 1 costs Ug. Shs. 3750
 Kenya Sh. 1 costs Ug. Shs. 25
 If a tourist had various amount of money in the following currencies;
- 300 US dollars (\$)
 - 500 Kenya shillings (K. Shs.)
 - A note of fifty thousand Uganda Shillings
- Calculate the tourist's amount of money in Uganda Shillings.

(6 marks)

24. The table below shows marks scored by pupils in a weekly test

Marks	30	70	80	50
Number of pupils				

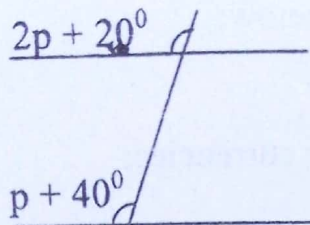
- How many pupils did the test?
(1 mark)
- Find the median mark.
(2 marks)
- Work out the average mark.
(2 marks)

25. (a) Given that $3^n \times 9 = 27$. Solve for the value of n. (2 marks)
- (b) If $104x = 53$, find the base x. (2 marks)

- (c) Electricity poles were fixed in a straight line along side a road at intervals of 10 metres to cover a distance of 990 metres. How many poles were fixed altogether? (2 marks)

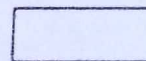
26. (a) In the figure below, work out the value of p .

(2 marks)



- (b) The size of each interior angle of a regular polygon is 120° .

- (i) How many sides has the polygon? (2 marks) (ii) Calculate the interior angle sum of the polygon. (2 marks)



27. Tom spent $\frac{7}{12}$ of his income on food, $\frac{1}{4}$ on fees and saved the rest.

- (a) What fraction of his income did he save? (2 marks) (b) If he saves Shs. 60,000, how much money does he earn? (2 marks)

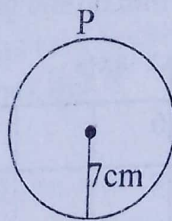
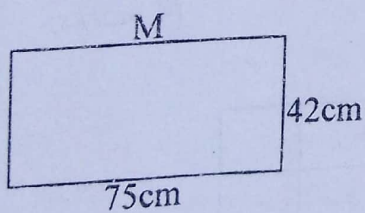
28. The table below shows a taxi's journey from town A to town E.

Town	Arrival time	Departure time
Town A		9:20a.m
Town B	10:10a.m	10:30a.m
Town C	11:30a.m	11:45a.m
Town D	12:15noon	12:35noon
Town E	12:50noon	

- (a) At what time does the taxi leave town C? (1 mark) (b) How long does the taxi stay at town D? (1 mark)
- (c) Express the arrival time at town B in a 24-hour clock system. (1 mark) (d) If a taxi travels at average speed of 90km/hr, work out the distance from town A to town C. (3 marks)

29. With the help of a ruler, a sharp pencil and a pair of compasses only, construct a rhombus WXYZ where diagonals XZ and WY are 12cm and 8cm respectively. (4 marks)

30. A rectangular sheet of plastic (M) was to be cut into circular pieces of (P) to make circular plates.



- (a) How many pieces of P can be cut out of M? (2 marks)
- (b) Work out the area of the rectangular sheet (M) remained un used. (3 marks)

31. Abdul is 20 years older than his son. In 10 years time, Abdul will be twice as old as his son.
- (a) How old is the son? (3 marks)
- (b) Work out Abdul's age in 10 years time. (1 mark)

32. Given that $y = x - 1$

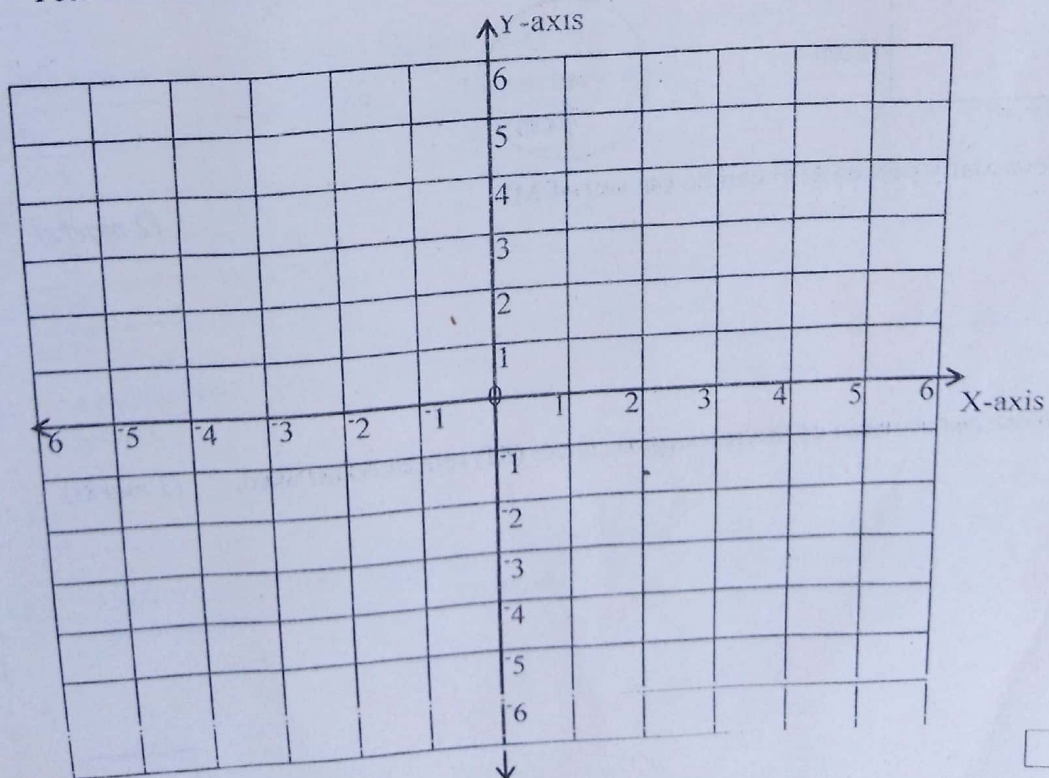
(a) Complete the table below.

(2 marks)

X	-2	0	_____	4
Y	-3	-1	1	_____

(b) Plot the above co-ordinates of a line on the grid below.

(4 marks)



END