

**MASAKA CITY EXAMINATIONS BOARD**  
**MOCK EXAMINATION- 2024**  
**MATHEMATICS**

***Time allowed: 2 hours 30 minutes***

INDEX NUMBER	RANDOM NUMBER					PERSONAL NUMBER			

**Candidate's Name:** .....

**Candidate's Signature:** .....

**School Random Number:** .....

**Read the following instructions carefully:**

1. This paper has two sections: **A and B**. Section A has **20** questions and Section B has **12** questions. The paper has **14 printed pages**
2. Answer **all** questions. All the working for both Sections **A** and **B** must be shown in the spaces provided. **3'**
3. All working must be done using a **blue or black** Ball point pen or **ink**. Any work done in pencil will **NOT** be marked except drawings and diagram.
4. Unnecessary **changes** in your work and hand writing that cannot be easily read may lead to **loss of marks**.
5. **No calculators** are allowed in the examination Room.
6. Do not fill anything in the table indicated

**"For examiners' use only"** and the boxes inside the Question paper.

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**FOR EXAMINERS' USE ONLY**

Qn. No.	MARK	EXR'S INITIALS
No	S	
1-5		
6-10		
11-15		
16-20		
21-22		
23-24		
25-26		
27-28		
29-30		
31-32		
<b>TOTAL</b>		

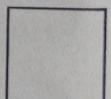
**Turn Over**

**SECTION A: 40 MARKS**

*Answer **all** the questions in this section.*

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

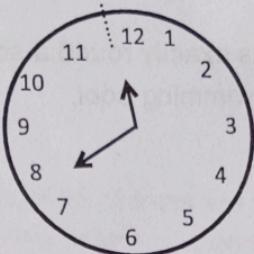
1. Multiply 23 by 2
  2. Work out  $3^3 + 3^0$
  3. A man got CDIX votes in an election, express the number of votes in Hindu Arabic numerals.
  4. Given that  $A = \{\text{The first 4 even numbers}\}$   $B = \{2, 3, 4, 5, 8\}$  Find  $n(A \cup B)$
  5. Work out the sum of: -4 and  ${}^+9$



6. Work out

$$\begin{array}{r} 1101_{\text{two}} \\ - 111_{\text{two}} \\ \hline \end{array}$$

7. A birthday party ended in the evening at the time shown on the clock face below



Express the evening time in the 24-hour clock system.

8. Work out:  $\frac{7}{8} \div 2\frac{1}{4}$

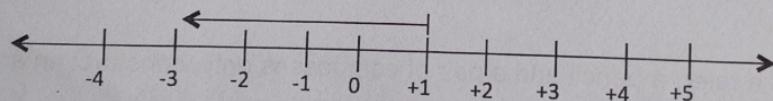
9. Using a ruler, a pencil and a pair of compasses only, construct an angle whose complement is  $30^\circ$ .

10. Musa turned clockwise through  $135^\circ$  to face South West. In which direction was he facing?

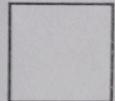
11. A piece of string 88m long fits exactly round a school circular swimming pool. Find the radius of the swimming pool.

12. Simplify:  $2(4x - 3) - 4(x - 2)$

13. Find the additive inverse of the integer shown on the number line below.



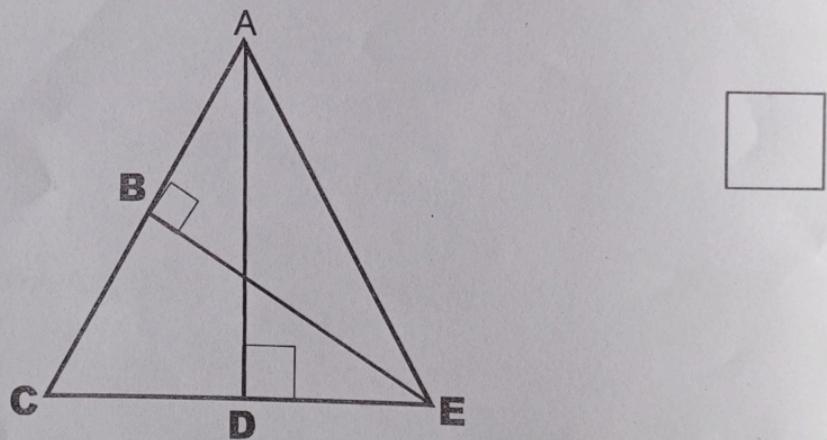
14. After selling an item for Sh. 72000, a shop attendant realized he had made a loss of 10%. Find the cost price of the item.
15. A tray contains 30 eggs. If 25 of them are good and the rest are bad, Find the probability of randomly selecting a bad egg from the tray.



16. Solve:  $3^{2l+1} = 27$

17. A lady bought 80 bags of sugar of 50 kilograms each for her school.  
Express the total number of Kilograms she bought as tonnes.

Carefully study the figure below and answer the questions.

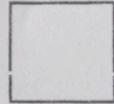


18. Given that  $AC = 30\text{cm}$ ,  $BE = 18\text{cm}$  and  $CE=45\text{cm}$ , Find the length of  $AD$

19. Pauline borrowed sh.200,000 from a SACCO for a period of 2 years at an interest rate of 10% per month. Calculate the simple interest paid after the 2 years.

(8 marks)

20. A complete full jerrycan contains 20 litres of milk. When 20 cupfulls are drawn out, it becomes  $\frac{1}{3}$  full. Find the number of cupfulls that fill a 20 litre jerrycan.



**SECTION B: 60 MARKS**

***Answer all questions in this section***

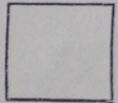
***Marks for each question are indicated in brackets***

21. a). Simplify:  $\frac{5}{12} - \frac{1}{2} + \frac{1}{4}$  (02 Marks)

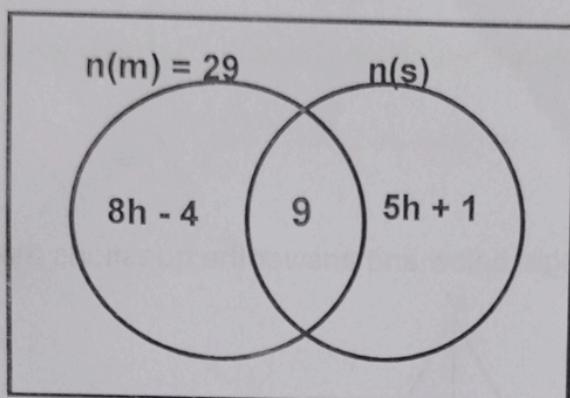
b). Workout:  $\frac{2.9 + 1.6}{0.5 \times 0.06}$  (03 Marks)

22. a). Find the arithmetic mean of  $5(x+1)$  and  $2x$  (02 Marks)

b). Solve:  $3 - \frac{2t}{4} < 5$  (03 Marks)



23. The venn diagram below shows the number of pupils who like, Math (M) and Science (S) in LM Junior school. Study it carefully and answer the questions that follow.



- a) Find the value of h

(02 Marks)

- b) Calculate the number of pupils who like only one subject.

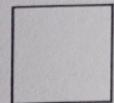
(02 Marks)

24. A motorist covered a distance of 300km in 3 hours traveling from Kiryandongo to Gulu, he rested for half an hour and then continued to Kitgum covering a distance of 180km at a speed of 120km/hr.

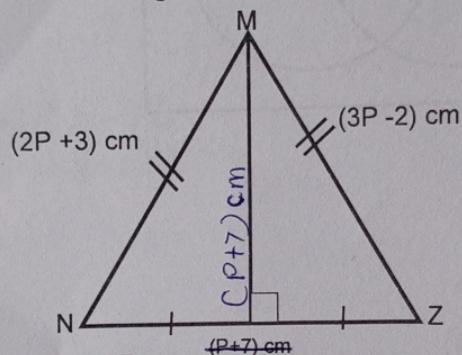
- a) Calculate the distance from Kiryandogo to Kitgum.

(01 Marks)

b) Calculate the motorist average speed for the whole journey. **(04 Marks)**



25. Study the isosceles triangle below and answer the questions that follow.



(a) Find the value of P

**(02 Marks)**

(b) Calculate the area of the triangle MNZ

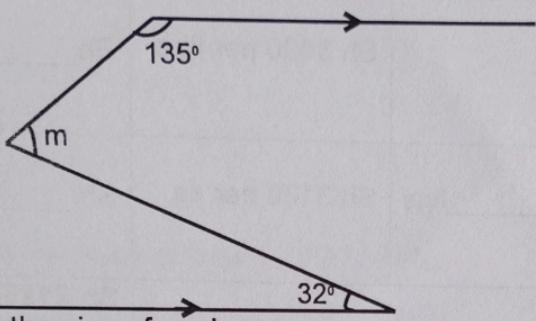
**(03 Marks)**

26. The median of four consecutive odd numbers is 24. Find their sum

**(05 Marks)**



Study the parallel lines below and answer the question 27.



27.a). Find the size of angle m (02 Marks)

b). The interior angle of a regular polygon is  $100^\circ$  more than its exterior angle. Find the size of the interior angle.

(03 Marks)

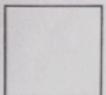
28. Suzy went shopping with twenty five thousand shillings and bought the following items as shown in the table below.

Complete the table (05 Marks)

Item	Quantity	Unit cost	Amount
Maize flour	2 kg	Sh.3400	Sh_____
Rice	1 kg	Sh_____	Shs 5250
Cooking oil	600 ml	Sh 5000 per litre	Sh_____
Sugar	_____ kgs	Sh 3100 per kg	Sh_____
<b>Total</b>			<b>Sh 21250</b>

29. (a). Using a pair of compasses , a ruler and a sharp pencil only, construct a quadrilateral PQRS where  $PQ = 5.5\text{cm}$ ,  $QR = 5 \text{ cm}$  and angle  $SPQ = 60^\circ$

(04 Marks)



- (b). Find the perimeter of the figure

(01 Marks)

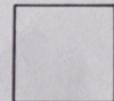
30. Paul is 4 times as old as Jane. Phillip is 20 years older than Jane. The total age of Jane and Phillip is equal to Paul's age.

a). Find the age of Paul

(03 Marks)

- b). Find the value of base  $n$ , if  $21_n = 13_{10}$

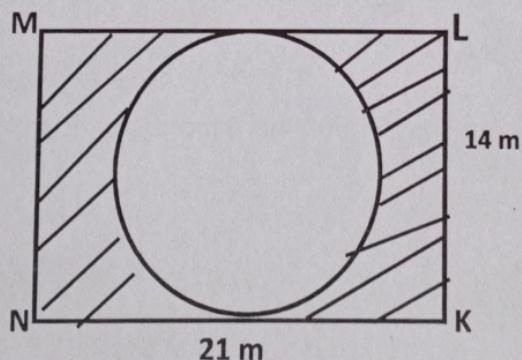
(02 Marks)



31. Study the figure below and then answer the question that follows.

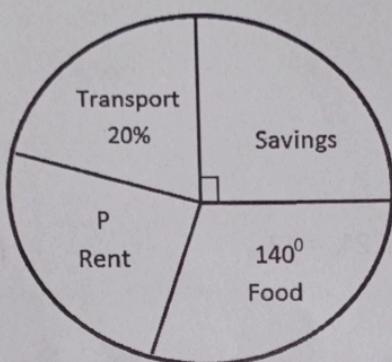
Given that  $MN = 14m$  and  $NK = 21m$

(05 Marks)



Calculate the area of the shaded part of the figure below

32. The circle graph below shows lady Liz's monthly savings and expenditure.  
Study it carefully and answer the questions that follow



(03 Marks)

(a). Find the value of P in degrees

(b). If lady LIZ spent shs164,000 more money on food than on rent, Find her monthly income.

(02 Marks)

END