

JINJA DISTRICT MOCK ASSESSMENT 2024

MATHEMATICS

DURATION: 2 HOURS: 30 MINUTES

INDEX NUMBER

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Candidate's Name:

Candidate's Signature:

Random Number.....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

Read the following instructions very carefully:

1. This paper is made of two sections **A** and **B**.
2. Attempt all questions.
3. Answers for both sections must be written in the space provided.
4. Section **A** has **20** questions (**40 Marks**) and section **B** has **12** questions (**60 Marks**)
5. All answers must be written in **blue** or **black ball point** or **ink**. Only **diagrams** and **graph work** must be done in **pencil**.
6. Any handwriting that **cannot** be easily read may lead to loss of marks.
7. Un necessary crossing may lead to loss of marks.
8. Do not fill any thing in the box indicated **"For examiner's use only"**

FOR EXAMINER'S USE ONLY

Qn. No.	MARK	SIGN
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 25		
26 - 30		
31 - 32		
TOTAL		

SECTION A: (40 MARKS)

Answer all the questions in this section
Question 1 to 20 carry two marks each.

1. Workout: $48 \div 4$
2. Given that $K = \{a, b, c, d, e\}$, find the number of subsets in set K.
3. Write 24,039 in words.
4. Find the next number in the sequence: 1, 2, 5, 11, 21, _____
5. Write $12\frac{1}{2}\%$ as a simplified fraction.
6. Simplify: $12mn + 6pr - 8mn - 3pr$

7. A boy bought 3 cakes at sh. 500 each and later sold all at sh. 2,300. How much profit did the boy get?
8. Using a pair of compasses, a ruler and a pencil only, construct an angle of 135° in the space below.
9. Find the solution set for $-2 < r < 3$.
10. A cyclist covers 144km every 2 hours. What distance does the cyclist cover in 45 minutes at the same rate?
11. Workout:
- $$\begin{array}{r}
 110 \text{ two} \\
 \times 11 \text{ two} \\
 \hline
 \\
 \hline
 \end{array}$$

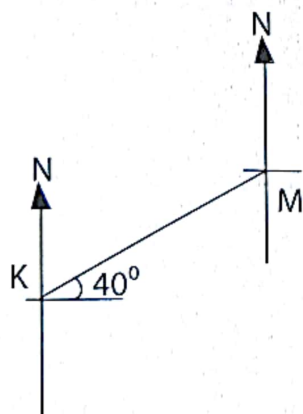
12. Six women paint a house in 10 days. How long would 5 women take working at the same rate?
13. In a club, there are 32 men and 23 women. What is the probability of picking a woman at random?
14. Work out: $(37 \times 15) + (63 \times 15)$
15. The prime factorization of $140 = \{2_1, K_1, 5_1, 7_1\}$. Find the value of k .
16. Write CDLXIV in Hindu-Arabic numerals.

17. Change 3.5 litres to millilitres.

18. A family meeting ended at 2:40 pm. It lasted for 4 hours and 30 minutes. When did it start?

19. Write the number whose standard form is 2.43×10^3 .

20. In the diagram below, find the bearing of K from M.



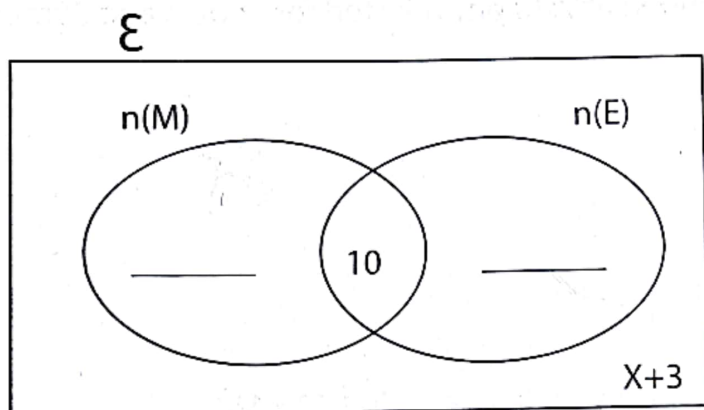
SECTION B (60 MARKS)

Answer all questions in this section

Marks for each question are indicated in brackets.

21. In a class, $(2x + 10)$ pupils like Maths(M), 20 pupils like English(E), 10 pupils like both subjects and $(x+3)$ do not like any of the two subjects.

- (a) Represent the above information in the Venn diagram below. (2 marks)



- (b) If there are 44 pupils in the class, find the value of x . (2 marks)

22. (a) Work out: $\frac{(17.64 + 0.36)}{(0.6 \times 2.5)}$ (3 marks)

- (b) simplify $\frac{2}{7}$ of $1\frac{10}{11} \div 1\frac{7}{11} - \frac{2}{9}$ (3 marks)

23. (a) Convert 13_{ten} to binary system. (2 marks)

- (b) What is the quotient of the value of 9 and the value of 3 in 49237? (3 marks)

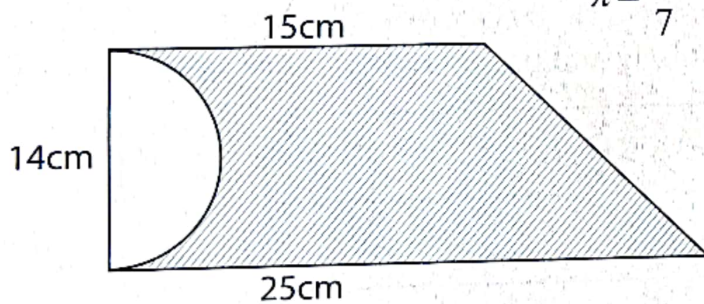
24. Study the exchange rates below carefully and use them to answer questions that follow.

Currency	Buying rate	Selling rate
1 US Dollar (\$)	3600	3700
1 Kenya shilling (Ksh.)	32	35
1 British Pound sterling (£)	4500	4800

- (a) Convert £150 to Uganda shillings. (2 marks)
- (b) A mobile phone costs Ksh.74,000. Find the cost of the same mobile phone in US dollars. (3 marks)

25. The average mass of four boys is 45kg. When two other boys join the group, the average mass becomes 44kg. The fifth boy is 12kg heavier than the sixth boy. Find the mass of the fifth boy. (5marks)

26. The figure below shows a semi circle enclosed in a trapezium. Calculate the area of the shaded part. (Take $\pi = \frac{22}{7}$) (5marks)



27. A trader sold a pair of trousers to Wambi at sh. 49,500, making a profit of 10%. Wambi later sold the pair of trousers to Mugabi at a loss of 20%.
(a) Calculate the price at which the trader bought the pair of trousers. (3 marks)

b) For how much did Wambi sell the pair of trousers?

(2 marks)

28. a) Using a pair of compasses, a ruler and a pencil only;

- (i) Construct a parallelogram FACE where $FA = 7\text{cm}$, $AC = 5.5\text{cm}$ and $\angle FAC = 120^\circ$.
- ii) Drop a perpendicular from E to meet FA at M.

(5 marks)

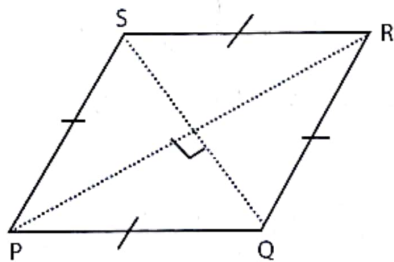
29(a) Given that $a = 4$ and $b = -3$, find the value of $\frac{4a-3b}{2a+b}$.

(2 marks)

(b) Solve: $4(3y-5) - 2(6+y) = -12$

(3 marks)

30. The diagram below shows a rhombus PQRS with diagonals $QS = 12\text{m}$ and $PR = 16\text{m}$.



(a) Find the area of the rhombus.

(2 marks)

(b) Work out the perimeter of the rhombus.

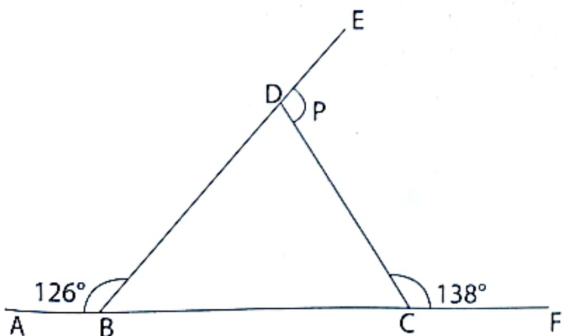
(4 marks)

31. A motorist left Kampala for Tororo at 10:20am moving at an average speed of 72km/hr. Kampala is 180km away from Tororo.
- (a) When did the motorist reach Tororo? (3 marks)

- (b) If the motorist took 2 hours on the return journey, find the average speed of the motorist for the whole journey. (2 marks)

32. a) The interior angle of a regular polygon is 120° larger than the exterior angle. Find the size of the exterior angle. (2marks)

- b) In the figure below, BDE and ABCF are straight lines. Angle $ABD = 126^\circ$ and angle $DCF = 138^\circ$. Find the value of p . (2marks)



END