



## UNEB BLUE PRINT 2023

### MATHEMATICS (SET FOUR)

*Time allowed: 2 Hours 30 Minutes*

Index no:

Random No					Personal No			

Candidate's name: .....

Candidate's signature: .....

School: .....

District: .....

### Read the following instructions carefully

1. This paper is made up of two sections: **A** and **B**.
2. Section **A** has **20** questions (**40 marks**).
3. Section **B** has **12** questions (**60 marks**).
4. Answer ALL questions in both sections **A** and **B**.
5. All answers **MUST** be written in the space provided  
In blue or black ball point pens or ink. All diagrams  
Should be in pencil.
6. Unnecessary crossing of answers will lead to loss of  
Marks.
7. Poor hand writing which cannot be easily read,  
May lead to loss of marks.

FOR EXAMINERS' USE ONLY		
Qn.No	MARKS	SIGN
1-10		
11-20		
21-22		
23-24		
25-26		
27-28		
29 - 30		
31 - 32		
TOTAL		

**SECTION A (40 MARKS)**

1. Workout:  $38 \times 4$

2. Solve  $3 - k = 5$

3. Write CXLIX in words.

4. Work out:  $3 - 4 = \text{-----}$  finite 7

5. Find the next two numbers in the sequence. 1, 3, 6, 11, 18, \_\_\_\_\_, \_\_\_\_\_

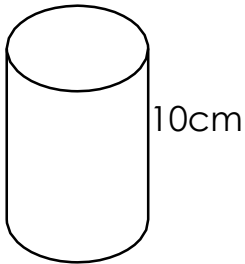
6. The G.C.F of two numbers is 6 and their L.C.M is 72. If one of the numbers is 18, find the second number.

7. A fifty minute meeting started in the morning at the time shown on the clock face below. At what time did it end?



8. Given that set  $K = \{b, a, g\}$ . How many proper subsets are in set  $K$ ?

9. The base area of the cylindrical tin below is  $154\text{cm}^2$ . Find its volume.

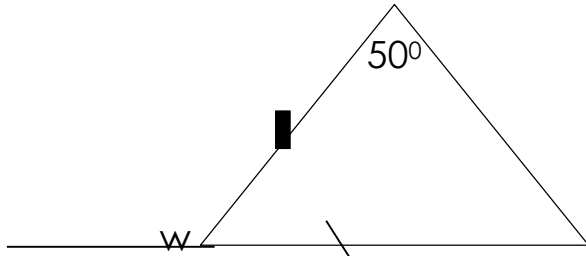


10. Musa has 180 mangoes. He then arranges them in heaps of 5 mangoes, selling each heap at Shs2,000. How much money will he earn from all the mangoes?

11. The probability that Joy will pass her mock exams is  $\frac{3}{5}$ . What is the probability that she will fail her mock exams?

12. Work out:  $\frac{3}{4}$  of  $8 - 12 \div 6$

13. Calculate the size of the angle marked with  $w$  in the figure below.



14. At a Riham cola factory, bottles are packed in packets of 12 bottles each, if they pack 500 packets a day, how many bottles are packed in a week?

15. Work out:  $110_{\text{two}} \times 11_{\text{two}}$

16. Simplify  $5 - 3(2k - 3) - 7k$

17. Find the sum of the value of 8 and the value of 4 in the number 286.43.

18. Juliet got 10 wrong answers in a test set out of 40 questions. What was her percentage score?

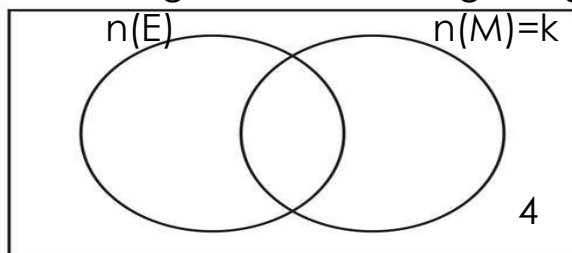
19. Mukasa was given a bundle of five thousand shilling notes numbered from HK 284295 to HK 284334 consecutively. How much money was he given?

20. Given that  $a = 8$ ,  $b = 9$  and  $c = 6$ . Find the value of  $\frac{a^2}{c}$ .

### **SECTION B (60MARKS)**

21. In a class of 40 pupils, 25 pupils like English (E),  $K$  pupils like Maths (M), 10 like both Maths and English while 4 pupils like neither of the two subjects.

a). Complete the Venn diagram below using the given information. (2mks)



b). How many pupils like Maths? (3mks)

22. Opie went for shopping and bought the following items.

- 4 kgs of rice at Shs3,500 per kg.
- 2 kgs of ground nuts at Shs10,000
- 25 tomatoes at Shs1,000 for every 5 tomatoes
- 500gm of onions at Shs2,000 per 250gms.

a). Workout his total expenditure. (3mks)

b). If he went back home with Shs7,000=, how much money did he have at the beginning? (2mks)

23.a). Simplify  $\frac{0.12 \times 4.8}{0.3 \times 0.6}$  (2mks)

b). Simplify:  $\frac{1}{4}$  of  $\frac{2}{3} + \frac{3}{4}$  (3mks)

24.a). The perimeter of a semi-circular pound is 72m. Find its radius. (3mks)

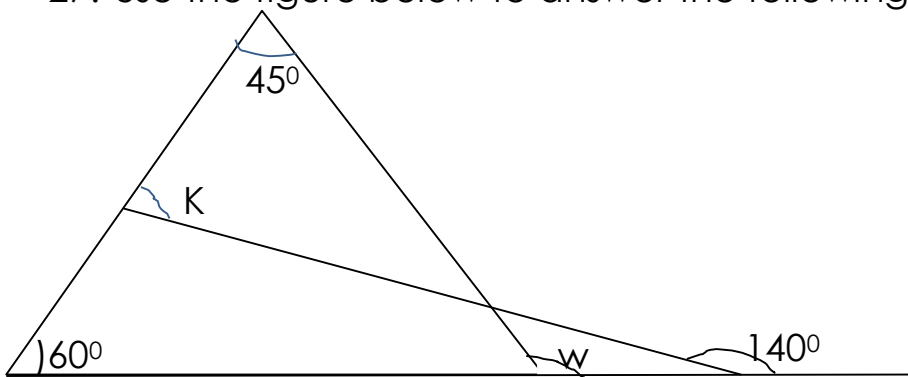
b). Find the amount of money needed to fence the pound if the poles are to be 200cm apart and the cost of the pole is Shs5,000. (2mks)

25.a). Solve for W:  $5(3w - 2) - 2(2w - 3) = 40$  (3mks)

b). Solve and find the solution set for  $+4 \geq +2 - 3x \geq -7$  (2Mks)

26. Dan left town **A** for town **B** at 60km/hr. He rested for 2hrs. He continued to town **C** covering 80km at 40km/hr. He rested for 30 minutes and returned to town **B** in only  $\frac{1}{2}$  hr. Find his average speed for the whole journey.  
(5mks)

27. Use the figure below to answer the following questions.



a). Find the value of W. (2mks)

b). Find the value of K. (2mks)



28.The table below shows marks obtained by candidates in the Real-P.L.E.

<b>Marks</b>	40	55	75	60	80
<b>No. of pupils</b>	3	4	4	2	1

a). How many candidates sat for the Real-P.L.E? (1mk)

b). Find the range of marks. (1mk).

c). Work out the mean mark. (3mks)

29.a). At a birth day party, Jane, Mercy and Doreen contributed some money in the ratio of 3:2:5 respectively. If Doreen contributed Shs45,000. What was their total contribution? (3mks)

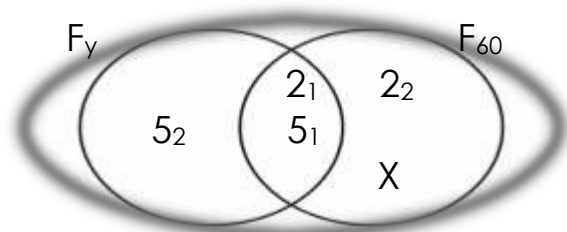
b). What was Jane's contribution? (2mks)

30. A trader bought a 50kg bag of sugar at Shs200,000. At what price must a trader sell each kilogram in order to get a profit of 20%? (4mks)

31. a). The sum of three consecutive even numbers is 96. If the highest number is  $n$ . Find the value of  $n$ . (3mks)

b). Find the product of the highest and the lowest number. (1mk)

32. Study the Venn diagram below and use it to answer the questions that follow.



a). Find the value of Y. (2mk)

b). Find the value of X. (3mks)

c). Find the G.C.F of Y and 60. (1mk)

b). Find the L.C.M of Y and 60. (1mk)