STEP-UP EXAMINATIONS BOARD

NATIONAL PRE-PLE SET FOUR

2024

MATHEMATICS

Time allowed : 2 hours 30minutes

Random No.						Personal No.		

Pupil`s Name .....

Signature: .....

School Name.....

District Name.....

Read the following instructions carefully;

1. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and Section **B** has 1**2** questions.
2. Answer **all** the questions. **All** the answers for both sections **A** and **B** must be shown in the spaces provided.
3. All working must be done using a **blue** or **black** ball-point pen or fountain pen. Any work done in pencil other than graphs, pictures and diagrams will **not** be marked.
4. Unnecessary changes of work may lead to **loss** of marks.
5. Any handwriting that cannot easily be read may lead to **loss of marks.**
6. Do **not** fill anything in the boxes indicated: **"FOR EXAMINERS' USE ONLY"** and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
QN. NO.	MARK	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.

Question 1 to 20 carry 2 (two) marks each.

1. Work out: 3
   X 8
   _____

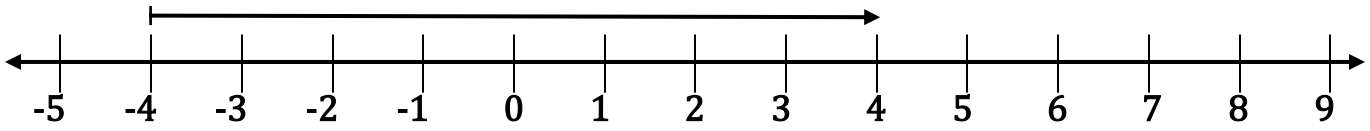
2. If K=7, find the value of $K^2 + K$.

3. A= (kato, silas, sombi, Jason)
   B= (Perus, kato, Nisha, Anisha)
   Find AnB.

4. Write “Eighty thousand eight hundred eighty-eight” in figures.

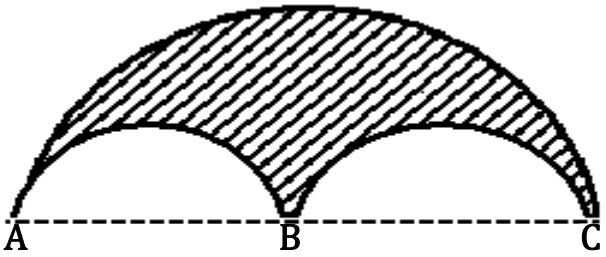
5. Factorise completely: 2XY – 4X.

6. What integer is represented by the arrow on the number line below?



7. Given that ⬭ represents 15 eggs and a tray carries 30 eggs, find the number of trays in ⬭⬭⬭⬭⬭⬭.

8. The figure below is made up of 2 small semi-circle and one big semi-circle.

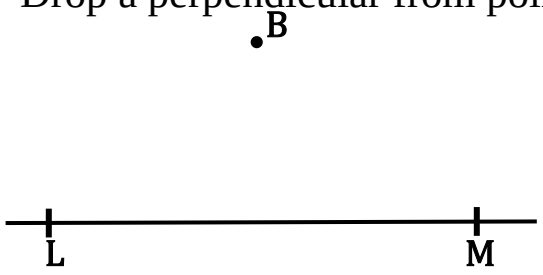


Find the perimeter of the figure.

9. Express shs. 400 as a percentage of shs. 1600.

10. Find the next number in the sequence 1, 8, 27, 64, _____

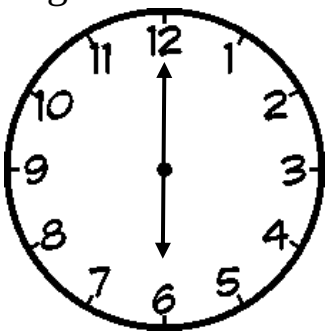
11. Drop a perpendicular from point B to meet line LM at point D



12. A fifty-minute test ended at 11:00. At what time did it begin?

13. Represent 1010_{two} on an abacus.

14. Using the clock face below, write the afternoon time shown.



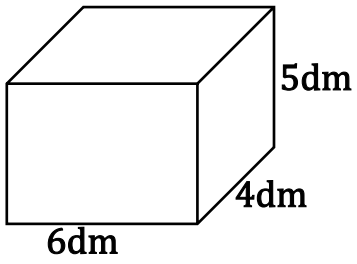
15. Work out the square root of $1\frac{11}{25}$.

16. The ratio of red pens to blue pens in a box is 2:3 respectively. How many red pens are in the box if the number of blue pens are 15?

17. Jane bought 250 ml of cooking oil. Express the quantity she bought in litres.

18. Simplify: $(Y - 2) - (3 - 2Y)$.

19. Find the sum of the length of all the edges in the figure below.

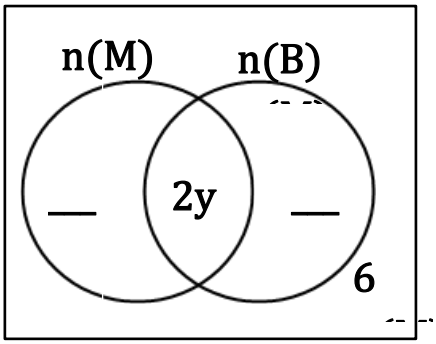


20. The mean of $Y + 1$, 5 and Y is 6. Find the value of Y.

SECTION B: 60 MARKS

21. In a class of 83 pupils, all of them like watermelon (W), 47 of them like beans (B), 40 like meat (M), 2y like all the three types of food while 6 like only watermelon.

a) Represent the above information on the Venn diagram below.



b) Find the value of y. (2 marks)

c) How many pupils like only two types of food? (2 mrks)

22. Study the figure below and find the value of X. (2 marks)

b) The complement of $2X - 10^0$ is 60^0. Find the value of X. (3 marks)

23.a) The solve: $\frac{M - 2}{3} = \frac{M+2}{4}$ (3 mrks)

b) Think of a number, add 3 to it and double the result. Your answer is 18. What is the number? (2 marks)

24. There are 20% more boys than girls in a class. If there are 100 pupils in a class.
a) What percentage are girls? (3 mrks)

b) What is the difference between girls and boys in terms of percentage?

25. Given that $2x = y + 3$, complete the table below correctly. (5 mrks)

x	$^{-}3$	$^{-}1$	____	3	____	0
y	$^{-}9$	____	1	____	7	____

26. The table below shows marks scored by P.7 candidates in a test. Use it to answer the questions that follows.

Marks scored	**60**	**55**	**80**	**70**
Number of pupils	**3**	**4**	**1**	**3**

a) Find the range in their marks. (2 mrks)

b) How many pupils scored above the average mark? (3 mrks)

27. a) At a birthday party, children were served with 2 queen cakes each, adults were served with 3 meat pies each and each member who attended was served with a bottle of soda. If 48 queen cakes and 72 meat pies were served, how many people attended the party? (3 marks)

b) If a crate of soda contains 24 bottles and costs shs. 12,000 each crate, how much was spent on soda? (2 marks)

28. a) Work out: $\frac{0.39 \times 0.24}{1.3 \times 0.08}$ (3 marks)

b) Express 0.5454…… as a fraction in its lowest terms. (2 marks)

29. The exchange rates in a bank are as follows:

1 US dollar ($) = Ug.shs. 3,400

1 British pound sterling = Ug.shs. 4,600

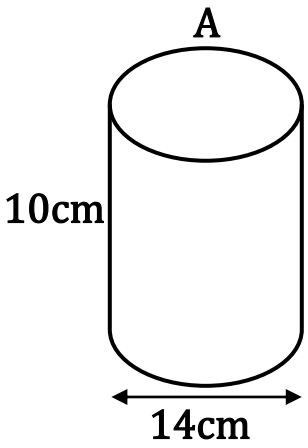
1 Kenya shillings (K.shs) = Ug.shs. 35

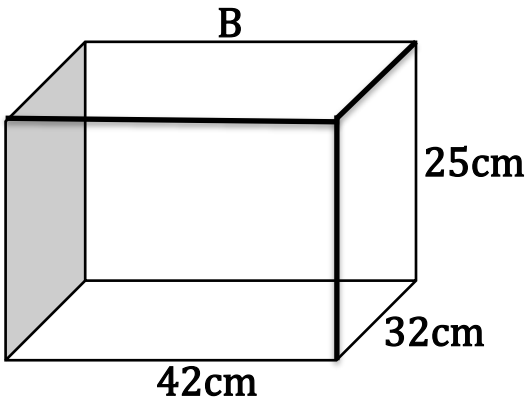
a) Convert Ug.shs. 1,840,000 to British pounds sterling. (2 mrks)

b) If a set of chairs cost $700, Find the equivalent cost of the chairs in Kenya shillings. (3 marks)

30. A father was left with ¾ of his assets. He distributed them among family members as follows: $^1/_3$ of it to his wife, $^2/_3$ of the remainder to his children and the rest to himself. If the father has 24 assets, find the total number of assets the father had left out with before distributing it. (5 marks)

31. Study the figures below and then use them to answer to answer the questions that follow.





a) How many cylindrical tins (A) can be packed into box (B) vertically? (2 marks)

b) What amount of space will be left in box (B) after packing? (3 marks)

32. From Port A, a ship sails towards west to port B for a distance of 70 km. It then alters its direction and sails to Port C on a bearing of 330^0 at a distance of 60km.

a) Draw a sketch diagram for the ships journey. (1 mark)

b) Using a scale of 1 cm: 10km, draw an accurate diagram. (4 mrks)

c) If it returned directly to Port A, what distance does it travel? (1 mrk)