

BUIKWE DISTRICT ACADEMIC BOARD

MOCK ASSESSMENT

2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random No.						Personal No.		

Candidate's Name:

Candidate's Signature:

District ID:

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Read the following instructions carefully:

1. Do not write your school and district name on this paper.
2. This paper has two sections: **A** and **B**. Section **A** has **20** questions and Section **B** has **12** questions.
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"

FOR EXAMINERS USE ONLY

Qn.No.	MARKS	EXI N
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

Turn Over

SECTION A: (40MARKS)

Question 1 to 20 carry two marks each

1. Wokout: 3 0
 x 3
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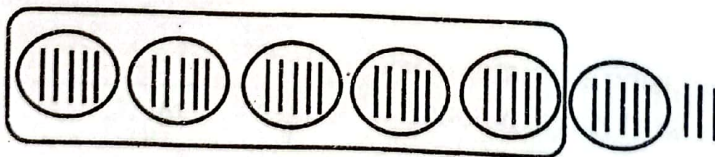
2. Write 404,090 in words.

3. If set $Y = \{p, e, n\}$. Find the number of subsets in set Y.

4. Find the next number in the sequence below;

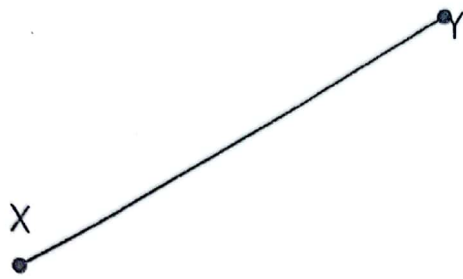
52, 27, 11, 2, _____

5. Express the base five number shown below in base ten.



6. A mathematics test that ended at 1:10 p.m lasted for $2\frac{1}{2}$ hours. At what time did the test start?

7. Using a ruler, pencil and pair of compasses only, construct a perpendicular bisector of line XY below.



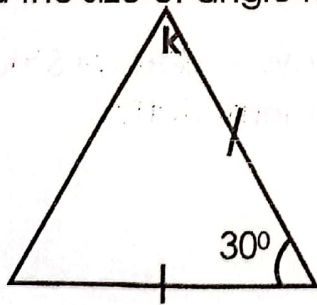
8. Solve: $3 - 2y < 9$
9. A lady used a 300ml bottle to sell passion fruit juice. If she sold 6 litres of juice, how many such bottles did she sell?
10. The Euro cup tournament that lasted for 28 days ended on Saturday. On which day of the week did the Euro tournament start?
11. Find the greatest common factor (GCF) of 18 and 24.

12. A die is rolled once. What is the probability of an even number showing up.

13. Express $\frac{1}{8}$ as a decimal number.

14. A trader sold a mat at sh. 65,000 and made a loss of sh. 15,000. What was the buying price of the mat?

15. Find the size of angle marked **K** in the figure below.



16. What percentage of one hour is 20 minutes?

17. Given that $K = -3$ and $n = 3$. Find the value of K^n

18. Find the average of $(4y + y)$, $5y$ and 14 .

19. A minute hand of a clock face rotated around the clock twice covering a distance of 440cm . Calculate the length of the minute hand. ($\pi = \frac{22}{7}$)

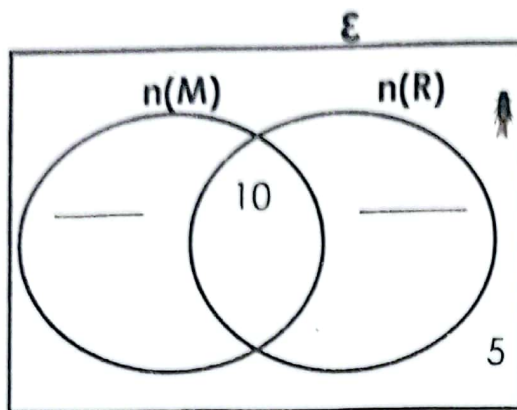
20. A motorist rode a certain distance at a speed of 60km/h in only 40 minutes. Calculate the distance covered in km .

SECTION B (60 MARKS)

21. In a certain class, $(2y + 1)$ pupils enjoy matooke (M) only, $(3y - 6)$ pupils enjoy rice (R) only, 5 pupils do not enjoy any of the two while 10 pupils enjoy both types of food.

a) Use the above information to complete the Venn diagram below:

(2 marks)



b) If the class has 4 more pupils who enjoy rice than matooke, find the value of y .

(2 marks)

c) Find the total number of pupils in the class.

(2 marks)

22. a) Express CDXCV in hindu-arabic numerals.

(2 marks)

b) Find the product of the value of 3 and the value of 8 in the numeral 735.28
(3 marks)

23. The list below shows the prices of items in Peace's shop.

- 500g of salt cost sh 1500
- 2kg of rice at sh. 8000
- 3kg of sugar at sh. 10,500
- 1 litre of milk at sh. 2000

If Samuel bought 1kg of rice, $1\frac{1}{2}$ kg of salt and 1kg of sugar, how much did Samuel pay altogether if he was given a 10% discount. (6 marks)

24. In a certain village, $\frac{4}{9}$ of the population are males and the rest are females, $\frac{2}{5}$ of the females are adults and $\frac{1}{4}$ of the males are children. The village has 60 female children.

a) Find the total number of females in the village.

(3 marks)

b) Find the total number of females in the village.

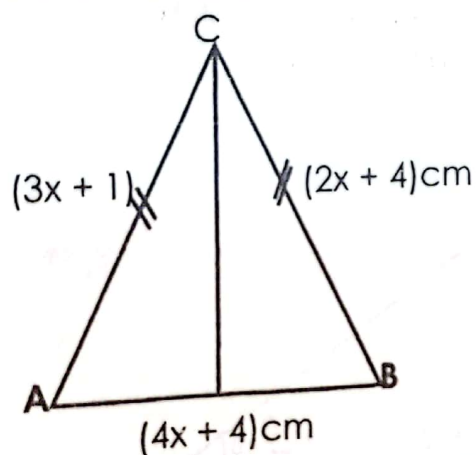
25. a) Using a ruler, pencil and pair of compasses only, construct a parallelogram **ABCD** where **AB = 7cm**, **BC = 5cm** and diagonal **AC = 10cm**.
(5 marks)

b) Measure diagonal **BD**

(1mark)

26. Town **M** and **N** are **390km** apart. A motorist left town **M** at a speed of **75km/h** for **3** hours. He rested for 30 minutes and continued to town **N** at a speed of **110km/h**.
Calculate the motorist's average speed for the whole journey. **(4 marks)**

27. The figure below is an isosceles triangle. Study it carefully and use it to answer questions that follow.

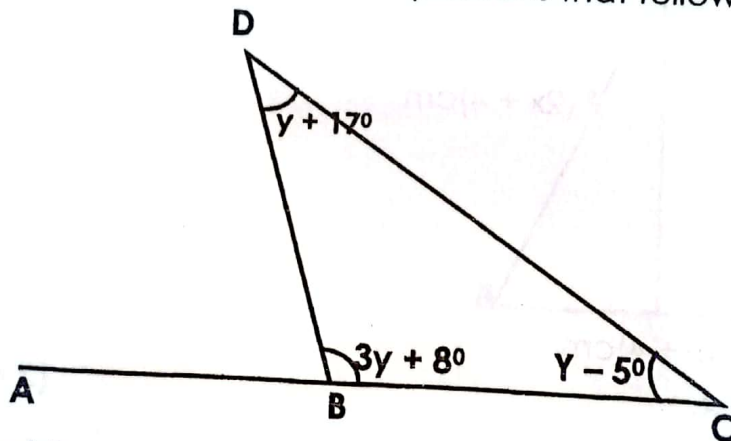


- a) Find the value of **x**. **(2 marks)**

- b) Work out the area of triangle **ABC**. **(4 marks)**

28. A trader bought a tray of 30 eggs at sh. 12000 some eggs got broken and she sold the remaining eggs at sh. 500 each making a profit of $8\frac{1}{3}\%$. Find the number of eggs that were sold. (4marks)

29. In the figure below, **ABCD** is a triangle and **ABC** is a straight line. Study it carefully and answer the questions that follow.



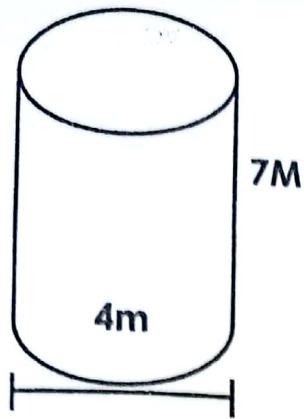
- a) Find the value of y in degrees.

(3 marks)

- b) Find the size of angle **ABD**.

(2 marks)

30. The figure below shows a water tank used in a certain home.



a) Find the capacity of the tank in litres. ($\pi = \frac{22}{7}$)

(3 marks)

b) One day when the above tank was full of water, $\frac{1}{4}$ of the water was sold using **20 litre** jerrycans. Find the number of full jerrycans sold. (2 marks)

31. Opio is **thrice** as old as his son Jacob and **twice** as old as his daughter Esther. The total age of Jacob and Esther is **35 years**.
Find Opio's age. (4 marks)

32. The table below shows the scores obtained by some pupils in a weekly test. Study it carefully and answer questions that follow.

Marks	50	60	80	70
No. of pupils	2	4	1	3

Find the number of pupils who scored below the average mark. **(4 marks)**