Names:

……

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ITEMS	LEARNERS SCORES
Item 1	
Item 2	
Item 3	
Item 4	
Total Scores	

KIYALA HIGH SCHOOL

MID TERM TWO ASSESSMENT TEST 2025

MATHEMATICS

S.4

Time: ***2 Hours: 30mins***

INSTRUCTIONS:

- The paper contains two sections A and B with 6 items.
- Section A is compulsory.
- Section B has two parts I and II, attempt any one from each part.
- Any additional questions answered shall not be scored

SECTION A. Compulsory

Item 1

Namusoke, a Rotarian and a parent living in Nabingo Village is actively engaged in various business ventures, including selling matured fingers and bunches. She purchases them at a cost of UGX 5.5 million and sells at a 25% profit. She offers a 10% discount to her loyal customers and pays a 15% tax on her total sales.

She allocates 30% of her profits for school fees and uses 45% remaining profits for reinvestment in her business and community donations. Specifically, she donates 1/5 of her remaining profits (after school fees has been deducted) and the rest to the Rotary Club.

Due to the fatigue she experienced from managing her business, she fell sick and was diagnosed with a condition that requires her to take two types of tablets. Of which one tablet must be taken every 6 hours and the other every 4 hours. But she took both tablets at 9:00 am.

Task.

a) As a student who learnt business Mathematics, help her to calculate the:

- ***i.*** Time she will take both tablets at the same time again. Show your calculation.
- ***ii.*** Profit after applying the discount, tax and how much she can allocate to school fees, reinvestment and community donation if she donates 1/5 of her remaining profits after school fees. Show your step-by-step calculation.

b) If Namusoke wants to contribute to the community project that costs UGX 500,000, determine how much more she needs to save if she allocates part of her reinvested profit to the project.

Item 2.

Musoke is a retired worker who was saving with NSSF. He has got his savings of 120 million.
He wants to use his savings to construct single and double room rentals from which he wants to collect a minimum. He intends to charge rent of Shs 90,000 monthly from each double room and Shs 60,000 monthly from each single room. He wants less than Six double rooms. He also wants to construct at most twice as many single rooms as double rooms. It will cost him Shs 12 million to construct each double room and Shs 10 million to construct each single room.

Task.

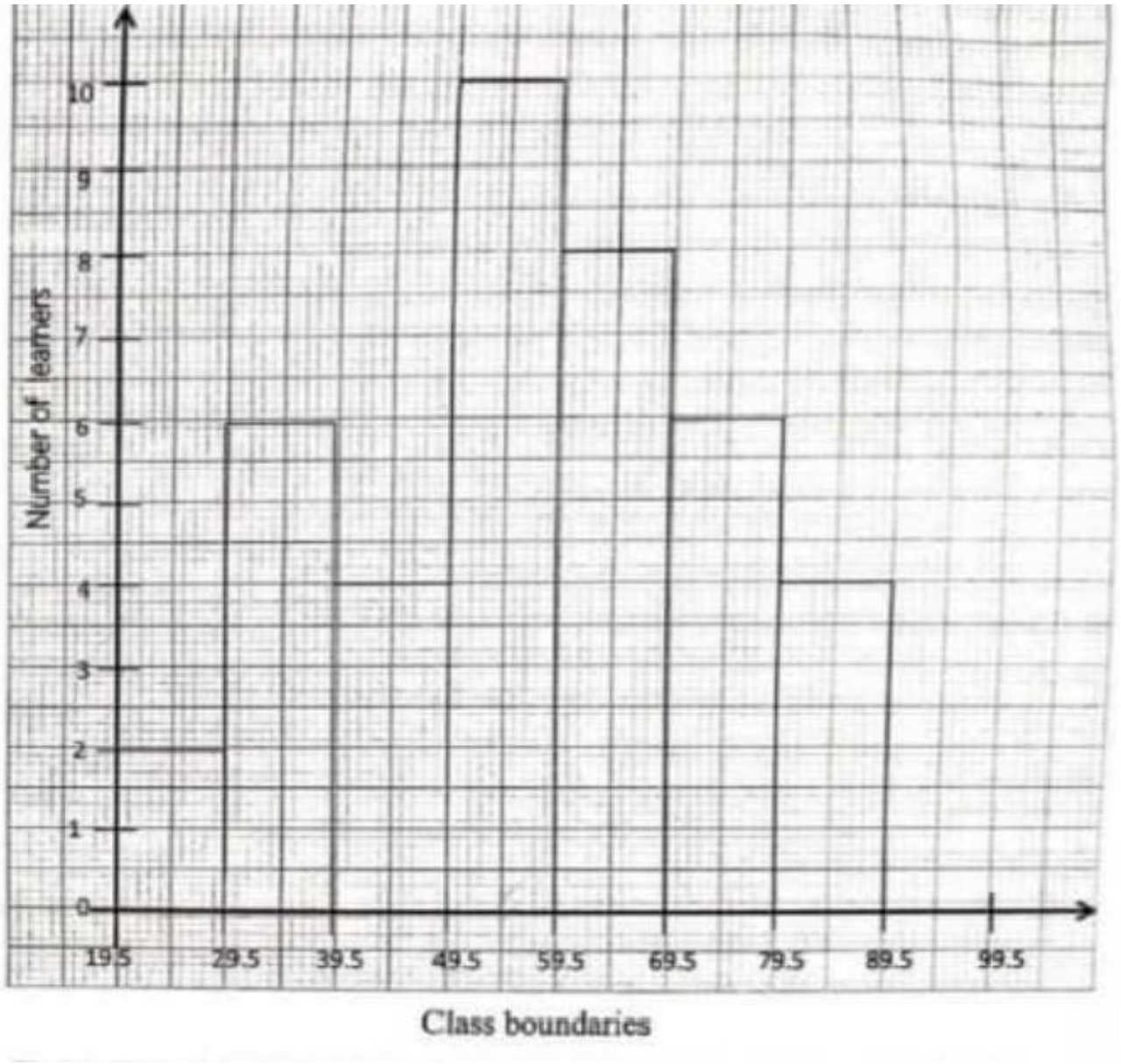
a) Write down mathematical statements which relate the number of double rooms and single rooms.

b) With the aid of a Cartesian plane, advise Musoke on how to maximize monthly rent collection.

SECTION B
part I
attempt one item only.

Item 3.

A certain Mathematics teacher assessed his learners in some Learning areas to really discover whether his learners were achieving the learning outcomes. In his analysis, he decided to present the results graphically as shown below.



Task.

Help the teacher to:

a) Determine the;

- ***i.*** Number of learners
- ***ii.*** Dominant class
- ***iii.*** Class width

b) Use the graphical representation above to construct a table hence find the

- ***i.*** average mark
- ***ii.*** Median mark.

Item 4.

The District Education Officer (DEO) in Yumbe district visited one school in his area to establish reasons as to why the performance of students was not good and in his survey, he sampled 160 students from the school, of which 75 have pencils, 87 have books and 93 have rulers.
25 had both pencils and books, 30 had both pencils and rulers while 44 had both books and rulers.
Every student had at least one of the items.

Task.

a)

- ***i.*** As a student of Mathematics, illustrate the information on a diagram.
- ***ii.*** find the number of students who had all the three items.

b). The NGO project in Yumbe will be giving out (donating) scholastic materials to students. If the probability of a student having only one item exceeds 0.2. Will the students get the donation or no for the school surveyed above?

PART II

Attempt only one item.

Item 5.

Two friends Mark and Grace recently returned to Uganda after working in the Middle East. At Entebbe International Airport, they exchanged their Bahraini Dinar (BHD) for Uganda Shilling (UGX) at an exchange rate of 1 BHD = 9,400 UGX. They exchanged 1,000 BHD.
They want to come home with a new 32-inch flat television set valued at a cash price of UGX 800,000. The deposit on hire purchase term, they were told to deposit 25% of the cash price and pay the balance in installment for 12 months, each month 80,000 UGX.
The two friends opted for hire purchase payment.

Task

a) How much did Mark and Grace receive in Uganda Shilling after exchanging their money?

b) How much money would the friends save if they had paid cash instead of hire purchase price?

Item 6.

A secondary School teacher has a requirement by the government pays PAYE every month according to the tax structure below:

Income (shs) per month	**Tax rate (%)**
01 – 50,000	5%
50,000 – 100,000	9.5%
100,000 – 180,000	15%
180,000 – 300,000	18%
300,000 – 400,000	23%
400,000 – 500,000	30%
Above 500,000	35%

The teacher earns Shs 760,000 and his allowances include:

* Marriage allowance: Shs 50,000 per month
* Water and electricity: Shs 60,000 per month
* Housing allowance: Shs 150,000 per month
* Medical allowance: Shs 300,000 per annum
* Transport allowance: Shs 3,000 per day
* Paying for insurance and relief: Shs 180,000 per annum

Family allowance for only three children: for children in the age bracket 0 to 10 years, Shs 12,000 per child; between 10-15 years Shs 9,000 per child, 15 years and above Shs 5,000.

Given that the employee (teacher) has five children, two of whom are aged between 0 and 10, the other two aged between 10 and 15 while the other 18 years.

(A month has 30 days)

Task.

a) Determine the teacher's net income.

b) Determine the percentage of his gross income that goes to tax.

****** WISHING YOU SUCCESS******