THE DEPARTMENT OF MATHEMATICS KHS

Names:

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ITEMS	LEARNERS SCORES
Item 1	
Item 2	
Item 3	
Total Scores	

KIYALA HIGH SCHOOL

END OF YEAR ASSESSMENT TEST 2025

MATHEMATICS

S.3

Time: **2 hours**

INSTRUCTIONS TO STUDENTS:

This paper has **two** *Sections;* **A** *and* **B**. *It consists of* **five** *examination items.*

Section **A** *has* **two** *compulsory items.*

Section **B** *has* **three** *items. Answer* **one** *item from this part.*

Answer **three** *examination items in all.*

Any additional item(s) answered will **not** *be scored.*

All *answers* **must** *be written in the answer booklet(s) provided.*

Begin each item on a **fresh page**.

Graph paper is provided. Silent non-programmable scientific calculators and mathematical tables with a list of formulae may be used.

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THE DEPARTMENT OF MATHEMATICS KHS

SECTION *A*

Answer* all *item in this Section.

ITEM 1.

Mr. Raban has **three** children he plans to visit on Saturday. He wants to give them some pocket money such that the **first born** gets 40% of the money, the **second born** to get $0.2\dddot{4}$ and the **remainder** to be given to the youngest child. The second born revealed to you that he got Ugx. 24,000. Mr. Raban also plans to construct a goat shed for his goats; the base should be rectangular to fit in the corner allocated by his family. The corner is of area $2.5m^2$ and the dimensions of the goat shed are $128cm$ by $(256)^{3/4}cm$.

Task.

(a) How much money did the first and last children get?

(b) Determine the simplified area of the goat shed in centimetres in form of $\boldsymbol{a^n}$.

Based on your calculations, will the goat shed fit in the corner?

ITEM 2.

Musa bought **25** text books and **35** exercise books at **Ugx. 135,000** from Kampala modern styles bookshop. From the same bookshop, Esther bought **21** text books and **38** exercise books and spent **Ugx. 13,000** less than Musa's expenditure.

In Mukono bookshop, the cost of a text book is 5% **less** and that of exercise book is 5% **more** than in Kampala Modern styles book shop. Esther still bought the same number of text books and exercise books and even Musa from Mukono bookshop.

Task.

(a) As a S.3 student, help Musa and Esther to find out the price of an exercise book and text book in Kampala Modern styles book shop.

(b) Which book shop would you advise Musa and Esther to buy from and why?

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SECTION *B*

***This Section has* three items.**
Answer only* one *item from this part.

ITEM 3.

A poultry farm has three units: Sunrise, Meadow and Harvest. Each unit produces eggs and broilers, with the following monthly output.

Sunrise: 75 trays of eggs and 50 broilers
Meadow: 60 trays of eggs and 54 broilers.
Harvest: 50 trays of eggs and 32 broilers.
The farmer sells each tray of eggs for 8,500 shillings and each broiler for 10,000 shillings. To optimize the parking process, the farm owner decides to weigh a sample of eggs and clarify them according to their mass(in grams).

The table below shows the eggs and their masses.

Mass in grams	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Number of eggs	20	90	180	110	40	50	10

Mr. Kirabo plans to pack eggs in different masses to meet some customer requests.

Task.

(a) Determine the sales he made after selling the farm outputs.
(b) Using a suitable **statistical graph**, determine the mass of majority of the eggs in the farm.
(c) Find the probability that a given pack of eggs weighs less than 50 grams.

Mr. Kirabo plans to pack eggs in different masses to meet some customer requests.

ITEM 4.

A city's transport department is working on improving traffic and public transport for a busy area where 124 factory workers commute daily. They have conducted a survey to understand the preferred modes of transport used by the workers. The findings have revealed that 32 workers use buses, 50 use motorcycles and 72 walk to work. Some workers use more than one mode of transport. 15 uses both buses and walk, 18 use both buses and motorcycles, and 7 use both motorcycles and walk. 4 workers use only buses, while the number of workers who use none of the three transport modes (they might work remotely or use personal cars) exceeds those who use both motorcycles and walk by 3. The transport planners claim that they will put traffic lights only if the chance of those who only walk exceeds 40%.

The transport planners want to analyse this data to optimize road usage and reduce congestion especially during peak hours.

Task.

(a) Determine the number of workers who use all use all the three modes of transport.

(b) Calculate the probability that a randomly selected worker uses at least two of the modes of transport.

(c) Advise the transport department, based on your calculations, whether to put traffic lights.

ITEM 5.

Three people Amon, Brian and Charles are village friends. They decided to go hunting for wild animals in a village forest. They left their bottle of water at point **A (2, 4**) and their spears at point **B (-1, 1)** and started tracing the wild animals from point **C (5, 3)**. While exploring the area the next day, they discovered a mysterious circular rock enclosing the area covered by three points just touching the tips of the three points.

Every 5 kilograms of meat of a wild animal costs **Ugx. 30,000**. A discount of **10%** is given to a buyer who buys every 20 kilograms of meat. Joseph needs to buy **100** kilograms but doesn't know how much he will pay. He approaches you for help.

Task.

(a) Using a graph and suitable geometric instruments, show the design of the area covered by a circular rock.

(b) Work out the area of the circular rock.

(c) Help joseph to know how much he will pay for the meat.

WISHING YOU MERY CHRISMAS AND PROSPEROUS NEW YEAR 2026.

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