

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.2

Time: 2 Hours

INSTRUCTIONS:

- The paper contains **three** items.
- Attempt **all the three** items

Item 1.

Two friends formed a partnership and agreed to deal in animal feeds. Ben contributed Seven hundred fifty thousand Shillings while James contributed Six hundred thousand. They agreed to save 15% of their gross profit in their joint account and further use 25% of the remainder to buy materials for the new products and thereafter, share the remaining profit in the ratio of their initial contributions.

At the end of their first year of operation, they made a gross profit amounting to UGX 3,160,000.

Ben deposited his share in his own account and his account pin number was saved as 419 in inverse base which he converts to base five to get the actual pin.

Task.

- a)** How much did Ben deposit in his account?
- b)** What is Ben's pin-account pin number?

Item 2.

The manager of a small bakery is struggling to represent the bakery's production constraints on a graph. The bakery produces two types of bread: loaves and buns. Each loaf costs UGX 2 to produce and each bun costs UGX 1 to produce. The bakery has a daily budget of UGX 100 that cannot be exceeded. In addition, the bakery must produce at least 20 loaves every day and at least 5 buns every day to meet the demand of customers.

The manager wants to illustrate/represent the conditions on a graph but has no idea on how to represent the constraints as inequalities to sketch them on the graph to show the region satisfying all the conditions (feasible/wanted region)

Task

Help the manager to represent the bakery's conditions production conditions on a graph?

Item 3.

Your friend plans to construct a small rectangular flower garden with an area of $(2x^2+1)$ square meters. He wants the sides of the form to be $(x+3)$ meters by $(x-3)$ meters, but he is struggling to determine the area of the garden and the length of the fence required to enclose the garden to avoid the flower crops being spoilt.

A meter of fencing wire costs UGX 180,000.

The contractor has to start with fencing first before constructing the garden. Unfortunately, he fell sick and he was diagnosed. He was instructed by the nurse to take two different tablets, one after 36 minutes and the other after 24 minutes. He first took the tablets together at 9:00 am.

Task:

a) As a S.2 Learner, help your friend to find:

- i.** The length of side of the farm and area of it.
- ii.** Cost of purchasing a fence which can be used to fence the farm.

b) At what time will the contractor take the tablets at the same time again?

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