

## ITEM 2. (THEME: PATTERNS AND ALGEBRA)

A school canteen in Entebbe prepared two types of breakfast packs for learners attending a weekend revision programme. One pack had a cup of porridge and 2 mandazi, while the other had 2 cups of porridge and 1 mandazi. On the first day, 3 packs of the first type and 2 packs of the second type were sold for Shs 31,500. On the second day, 2 packs of the first type and 4 packs of the second type were sold for Shs 39,000. The bursar wants to know the cost of a cup of porridge and that of one mandazi so that future pricing can be done correctly.

For the following weekend, the canteen plans to prepare the two types of packs again. At most 60 packs can be made altogether, and there must be at least 20 packs of the first type because many learners prefer them. Since the second type is more filling, the number of those packs should not be less than half the number of the first type. The canteen has set aside not more than Shs 300,000 for preparing all the packs. The bursar will approve the plan only if the greatest possible number of packs that can be prepared is at least 50; otherwise, the plan will be revised.

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Task:

- Find the cost of a cup of porridge and that of one mandazi.
- Form the inequalities representing the conditions for preparing the two types of packs.
- Determine the combination of the two types of packs that gives the greatest total number of packs.
- State whether the bursar should approve the plan or revise it.