

KIYALA HIGH SCHOOL

MID-TERM ASSESSMENT TEST 2025

MATHEMATICS

S.2

Time: 1 Hours: 30mins

INSTRUCTIONS:

- The paper contains **three** items.
- Attempt **only two** items from all.
- Any **additional item** attempted **will not** be scored

Item 1

Doreen and David live in town P while their parents live in town Q. Towns P and Q are 500km apart. At 8:14am, Doreen left using a car from town P to Q traveling at a steady speed of 60kmh^{-1} . Two and a half hours later, David also left using a bus heading to town Q at a steady speed of 100kmh^{-1}

Task

- a) On the same axes, show the journeys of the two vehicles (use a scale of 2cm to represent 50km and 2cm to represent 1 hour)
- b) Use your graph to find the;
 - i) Distance of the car from Q when the bus took off
 - ii) Time and distance from P where the bus overtook the car.
 - iii) Difference in the time of arrival of the two vehicles

Item 2

Two friends, Sarah and Moses started a poultry to which they contributed shs. 4,000,000 and shs. 6,000,000 respectively. They agreed to share the profits in the ratio of 2:3 and the project started with 2,000 birds. After selling all the birds, they made a profit of 1,500,000 shs. They re-invested the profit in the project and the number of birds increased to 2,500. However, Moses was not sure of the amount he re-invested as well as the percentage increase in the number of birds.

On 1st march, 2024, they bought feeds and also balanced their book of accounts on that very day, they had a meeting in which they agreed to buy feeds after every 7 days and balance their books of accounts after every 15 days. However, Sarah wondered if there would be another date in the future on which they would buy feeds and balance their books of accounts on the same day.

Task

- a) How much of the profits did Moses re-invested in the business?
- b) What was the percentage increase in the number of birds?
- c) On what date in the future would they buy the feeds and also balance their books of accounts the same day.

Item 3

A tourist group in Uganda visited three sites A, B and C, by helicopter. They began their journey at point S, traveling 300km on a bearing of 315° to reach site A. afterwards, they changed course to a bearing of 250° , flying 350km to site B, they flew directly south for 400km to site C. unfortunately, one of the tourists fell ill at site C and they now needed to return to the starting point S, as quickly as possible for medical attention. The group seeks help to find a shorter, direct route from site C back to the starting point S optimizing their flight path for a faster return.

Task

Help the tourist determine the bearing and distance on the direct route they should take to reach the starting point from site C in the shortest time possible

SUCCESS