

KIYALA HIGH SCHOOL

MID-TERM ASSESSMENT TEST 2025

MATHIMATICS

S.3

Time: 2 Hours

INSTRUCTIONS:

- The paper contains **four** items and two section A and B
- Section A is **compulsory**, Attempt **only one** item from **section B**.
- Any **additional item** attempted **will not** be scored

Section A

Item 1

A shop keeper in Lugala community has a retail shop that deals in measured goods. In certain week, he decided to collect the data about the amount of rice (kg) bought together with the number of people who buy a given amount. He found out that 5 people bought $\frac{1}{4}$ kg each, 10 people bought $\frac{1}{2}$ kg each, 12 people bought 1 kg, 28 people bought 2 kg each, 7 people bought 5 kg each and 4 people bought 10 kg each.

Task

- a) Use a suitable table to represent the above data
- b) Determine the amount in kg sold that week
- c) If the cost of each kg of rice is shs. 4.500, help the shop keeper to know the quantity where he makes more money and how.
- d) In your own view, discuss why some people buy less kgs of rice.

Item 2

A certain tourist in USA is planning to visit the following places in Africa next month. The tourist has highlighted the following places on the map of Africa. These include, South Africa, Burundi, Kampala, Dodoma, Accra, Bujumbura, Nairobi, Ghana, Johannesburg, Tanzania, Uganda, Kenya, Cairo, Kigali, Egypt and Rwanda.

Mr. Areku Elias is an agent for three companies of soda like coca cola, Pepsi and Reham beverages. He supplies soda to specifically tourists trading centers. He earns 10 % commission in every carton of soda sold. He sells each carton of coca cola at 11,000 UG. Shs. Pepsi at 11,000 UG. Shs. And Reham at 10,000 UG. Shs. On a good day, he sells 30 cartons of coca cola, 20 cartons of Pepsi and 10 cartons of Reham.

Task

- a) As a student of S.3, list the places in the;
 - i) Domain set.
 - ii) Range set.
- b) What is the relationship between the domain and the range?
- c) i) help the tourists to sort the places by use of an arrow diagram
ii). Escribe the type of mapping in the arrow diagram in (c) above
- d) help Areku to know the commission earned on a good day from all the sales.

Section B

Attempt one item from this section

Item 3

Kaira prepared a birthday party at her home and invited her friends between the age of 20 to 54 years. She wanted to confirm which age bracket mostly could attend her party. So, she grouped them starting with (20 – 24) years.

The people attended were of age

30	22	38	25	41	37	33	40
39	38	51	32	48	34	43	24
25	31	37	43	23	46	36	47
39	44	26	36	37	41	29	32
40	38	42	31	49	28	54	35

Task

- a) using clear mathematical procedures, find the age bracket which mostly attended her party and the most frequent age that attended her party.
- b) Find the mean age of the people that attended the party.

Item 4

From the roof of a house, a boy can see a coconut tree which is 20cm away from the house. He measured the angle of the elevation of the top of the tree as 21° and the angle of depression of the bottom of the tree as 13° .

On the other side of the coconut tree is a tall building 100m high. The angle of depression of the base of the coconut tree from the top of a tall building is 20.3°

Task

- a) Find the height of the coconut tree.
- b) i) find the horizontal distance of the tall building from the tree?
ii). Find the height of the house?

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