THE NAVIGATOR EXAMINATION COUNCIL KAMPALA

UGANDA CERTIFICATE OF LOWER SECONDARY EDUCATION

END OF YEAR EXAMINATION 2023

MATHEMATICS

SENIOR 1

2 HOURS

INSTRUCTIONS

The paper consist of two responses short and extended responses.

All short responses are **compulsory**

Attempt any **two** extended responses

Short Response Items

1. Find the L.C.M and H.C.F of 84, 126, 210.
2. Share Shs. 60,000 among A, B and C in the ratio 2:3:7.
3. Given that a*b = a^2+ab, find the values of 3*(1*4).
4. Express 0.1666… as a fraction in its simplest form.
5. In a class of 20 students, 10 speak English (E), 8 speak French (F). If 6 speak neither, how many speak both.
6. Express 676 as a product of its prime factors hence find $\sqrt{676}$.
7. Draw an abacus and illustrate this expression 4 × 84 + 2× 82 + 4×80 on it.
8. In a Geography lesson, Alex learnt that the following Mountains are in Uganda; Rwenzori and Elgon. Kenya has Mt. Longonot and Mt. Elgon. Tanzania has Mt. Mt. Meru, and Mt. Kilimanjaro.

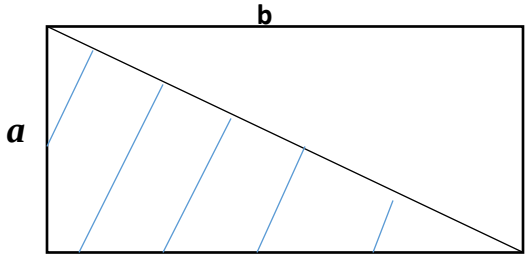
   (a) Draw an arrow diagram to show the relation amongst the places listed above.

   (b) What is the domain and the range from your relation?

Extended Response Items

9. A school has 100 learners studying biology at senior six each learner needs a rat to do a biology practical. Each rat cost Ugx 20,000. The school finds it expensive in the long run and wishes to solve this problem.
   As a senior two learner, help the school by developing a reproduction that convinces the school administrators to start up a project of rearing rats as a solution to high rat costs.
10. A garden of beans is rectangular in shape with length as ***b*** *metres* and width ***a*** *metres* as shown in figure.

    Bona used the shaded part to plant his beans.



    (a) Explain how the area of the shaded part can be obtained from the rectangular Garden.

    (b) Write an expression in terms of the area (A), ***a*** and ***b*** for the area of the triangular portion of the garden.

    (c) The area of the portion you shaded in (c) is 464.52 *m2*, the length is 15.24 *m*. What is the dimension of the width?

11. Two learners were given a task of plotting the following points on the grid. A (0, 4) B (2, 2), C (4, 2), D (2, 0), E (4, -2), F (0, -1), G (-4, -2), H (-2, 0), I (-4, 2) and J (- 2, 2).
    Plot the points above to form a polygon and state the equation of the line of symmetry for the figure formed.

END