

KAMSSA LOWER SECONDARY LEVEL EXAMINATIONS
MATHMATICS
SENIOR TWO
END OF YEAR 2022
2 Hours

Do not write in the boxes on this page. The examiner will use them to keep a record of your marks.

SECTION A

QN	1	2	3	4	5	6	7	8	9	10	Total
Marks Scored											

SECTION B

QN	11	12	13	14	Total
Marks scored					

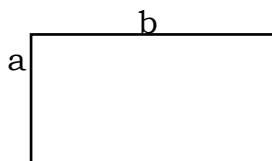
INSTRUCTIONS

1. Answer all the questions in Section A and **only two** questions in section B.
2. Each question in Section A carries **4 marks** and each question in Section B carries **20 marks**.
3. Show all the working and explanation on the answer sheets provided.

SECTION A (40 MARKS)

ATTEMPT ALL QUESTIONS FROM THIS SECTION

1. Draw an abacus and illustrate this expression $4 \times 8^4 + 2 \times 8^2 + 4 \times 8^0$ on it.
2. Simplify $(7 - \sqrt{3})(4 + \sqrt{3})$. Give your answer in the form $+b\sqrt{3}$. identify the value of a and b.
3. In a Geography lesson, Maria learnt about the following places. Mount Longonot, Mount Elgon, Mount Meru, Mount Kilimanjaro, Mount Rwenzori, Kenya, Tanzania and Uganda.
 - a) Draw an arrow diagram to show the relation amongst the places listed.
 - b) What is the domain and range from your relation
4. A garden of maize is rectangular in shape with length b metres and width a metres as shown

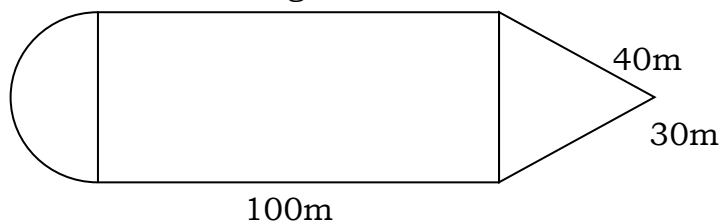


- a) Copy and complete the rectangle and explain how the area of a triangle can be obtained from the rectangular garden if it is divided into two triangles.
- b) Write an expression in terms of Area (A), a and b for the area of the triangular portion of the garden.
5. A number which is a multiple of 3 is chosen at random from a set of even numbers between 1 and 20. What is the probability of choosing the number.
6. A flower garden in the form of a square has an area of $x^2 - 6x + 9$.
- a) Work out the length of the side.
- b) If the flower garden has an area of 100 square metres. Work out the value of X.
7. Peter and Juma take 30 and 40 minutes respectively to run round a circular track. If they started their race at 8:00am from the starting point.
- a) What is the earliest time they will be at the starting point together.
- b) After how many hours will they be at the starting point?
8. A translation described by vector T transforms a point A (3, -2) to A' (5,2)
- a) What is the vector translation T.
- b) Use the translation obtained in (a) to work out the coordinates of the Image of point B(2,4).
9. A camera price that long stayed in a supermarket was reduced by 20% then by 25% and finally by 40%. If the final price was 216,000, what was the original price.
10. At the class assembly, senior 4 learners form a pattern of 4 rows and 10 columns.
- a) Determine the number of learners at the class assembly.
- b) From your answer obtained in (a) illustrate with the aid of a diagram how many possible rectangular patterns you can make.

SECTION B (40 Marks)
ATTEMPT 2 QUESTIONS FROM THIS SECTION
(Functional Mathematics)

11. In order to improve on the livelihood among the community, the government of Uganda embarked on distribution of improved seeds to boost the yield of agricultural products in Kamuli district, Magogo sub county which has 4 wards. The wards are A, B,C and D. basing on the size of land in each ward for every 100 packets of seed. Ward A gets 30 packets, ward B gets 20 packets, ward C gets 40 packets and ward D gets 10 packets. The government has procured 45,000 packets which are all to be shared equitably according to the community.
 By using a statistical pie chart, help the local leaders to distribute these seeds to the community in words. (20 marks)

- 12.** Charles wants to construct a perimeter wall around his plot of land. The plot of land is a semi-circular one end and a right-angled triangle shape at the other end. The middle part of land is rectangular.



- a)** Charles asks you to accurately construct the foundation plan for this perimeter wall. Help him out.
- b)** Explain how you have accurately constructed the perimeter wall plan. Discuss whether there are other ways of drawing an accurate plan.
- 13.** 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 $J(-2,2)$. Before they plotted the points Jane told Musa that when plotting for point A you move 4 units to the right of the origin and no movement along the y – axis from the origin. For point C you move 2 units to the right of the origin and 4 units parallel to the y – axis in the positive direction. Musa said no for point A there is no movement along the x – axis, you only move 4 units along the y- axis. While for point C you move 4 units from the origin on the x – axis, then two units parallel to the y – axis.
- a)** Comment with reasons on Jane’s explanation of plotting the points.
- b)** Using Musa’s explanation, plot the coordinates.
- c)** Join the points to form a polygon. State the operation of the line of symmetry.
- 14.** Ojok wants to paint his room. The floor of the room is 5m long and 4m wide. The room is 3m high. The room has two doors each fixed in the walls that are opposite to each other, both 2m high and 75cm wide. It has one window in one of the longer walls. It is 1m square
- a)** Draw a sketch of Ojok’s room. Indicate the measurements of the floor, height, doors and window.
- b)** A painter charges ugx 800 per square meter. How much money will Ojok pay for the painter?
- c)** A 4 – litre tin of paint costs Ugx 70,000 and it paints 12m square of the wall. The walls already have undercoat paint.
- i) How many tins would Ojok need to buy in order to paint his room?
- ii) How much money will Ojok require to paint his room?

END