***SEGUKU HILL COLLEGE***

**Uganda Certificate of Lower Secondary Education**

***MID TERM II 2023***

***S.2 MATHEMATICS PAPER***

***Time: 2hrs:30mins***

**INSTRUCIONS**

* Answer all questions
* Show all the working and explanation on the answer sheets provided.

1. Mr. Alex is a rich man in **Makindye** and he wants to design his compound as shown below.

**House**

**Flowers**

**Grass**

**Toilet**   **Kitchen**

**0.07m**

1. As a mathematician, help Mr. Alex to accurately design his compound using the knowledge of construction. Given that the angle joining the kitchen to the house is **60o**
2. What are the distance from;
3. The house to the toilet
4. House to kitchen
5. Find the areas covered by
6. Grass
7. Flowers
8. Mr. Lirwana is a sales person. He earns a monthly salary of **shs 400000**. In addition: he is paid a commission per month as shown in the table below.

|  |  |
| --- | --- |
| SALES(shs) | COMMISSION (%) |
| **0 - 100000** | **5** |
| **100001 – 300000** | **10** |
| **300001 – 500000** | **15** |
| **ABOVE 500000** | **20** |

1. If he earned a total commission of **shs. 115000**. Calculate the commission he made on sales above **shs 500000**.
2. Calculate the total sales he made
3. What were the sales above **shs 500000**?
4. What was his total pay for the month?
5. In order to promote sports in **SEHICO**, the management decides to construct a football pitch.

Resources

* Knowledge of algebra
* Knowledge of mathematical operations

**Task:**

The school management decides to construct the pitch whose area is **4050m2**. The length of the pitch should be twice the width. Determine the dimensions of the pitch, hence the perimeter.

1. The following data shows marks out of **10** obtained by **40** learners in an examination

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 3 | 4 | 6 | 8 | 10 | 5 | 6 | 4 | 9 |
| 8 | 7 | 2 | 5 | 7 | 7 | 2 | 8 | 2 | 3 |
| 6 | 5 | 3 | 2 | 6 | 9 | 6 | 8 | 4 | 4 |
| 6 | 4 | 7 | 6 | 2 | 4 | 6 | 6 | 5 | 2 |

1. Draw a tally chart to represent the data
2. Use your chart to find:
3. The number of learners who scored the highest.
4. The number of learners who scored the lowest
5. The marks scored by the highest number of learner
6. Draw a bar chart to represent the above information
7. Let D
8. Draw an arrow diagram to show the relation “**is the square of**”.
9. Write down:
10. The members of the domain
11. The members of the range
12. State:
13. The type of mapping
14. Whether it’s a function or non function with a reason why?
15. Your family has five sibling; Shamim, Gorret, David, Juma and Esther. There is an interval of four years between the ages of the children, from Esther to Shamim. Shamim is four years old. Prepare diagram that explain the information about your family.
16. 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)**

1. **Plot** the points above to form a polygon
2. state the;
3. name of the polygon
4. equation of the **line of** **symmetry** for the figure formed.

**………. END………..**