GHS | **MATHEMATICS EXAM** | **S. 1**

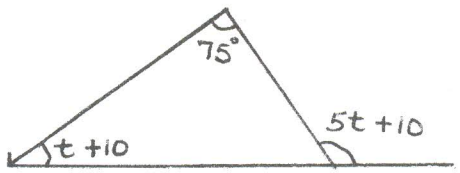
Duration: 2 Hrs | **NOV. 2013**

Instructions:

- Attempt all questions in **Section A** and any three from **Section B**.
- All working should neatly be shown.
- The use of calculators is not allowed.
- Where required use $\pi = \frac{22}{7}$.

SECTION A

1. Find the next two numbers in the sequence 6, 9, 5, 10, 4, _, _
2. Simplify $1\frac{3}{5} - \frac{7}{8} \times \left(\frac{6}{7} + \frac{1}{2}\right)$
3. Express the recurring decimal 1.25151..... as a fraction.
4. Solve for x: $\frac{1}{3}(5x - 7) = 1 + x$
5. Sarah borrowed 500,000/= from Stanbic bank at simple interest of 20% per year. How much interest will she pay after 2 years? How much money does she pay back in total?
6. Find the equation of a line through the points (-1, 4) and (3, 2).
7. Find a rough estimate to $\frac{7.34 \times 168.1}{21.29}$.
8. Find the value of t, clearly stating the property used:



9. There are 28, 32 and 48 students in P7, P6, and P5 respectively. To support their education, what is the least number of exercise books that should be provided so that each student gets the same number of books?
10. Draw on the Cartesian plane, the graph of $y = 2x - 3$.

SECTION B

11. In a class of 50 students, 22 have been to Entebbe (E), 37 have been to Jinja (J), and 9 have not been to any of the two towns. If y students have been to both towns:

a) Represent this information on a Venn diagram, and find the value of y.

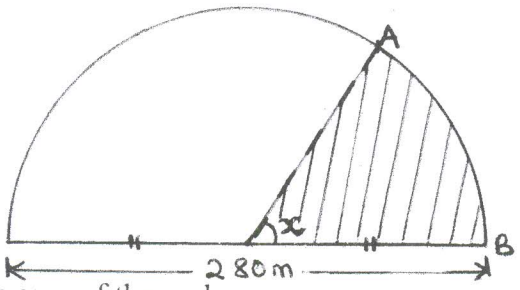
b) How many students have been to only one of the towns?

c) What is the probability that a student in this class has been to Entebbe?

d) Calculate the percentage of students that have been to none of the towns.

12. a) Given that $a = -2$, $b = -10$, and $c = 5$, calculate the value of $a^2 - 3b + c^2$.

b) A semi-circular leisure park shown in the diagram has a diameter of 280 meters.



i. Calculate the area of the park.

ii. If angle x of the shaded part is 60^0, calculate length AB to 2 decimal places.

13. Using a pair of compasses and ruler only, construct triangle PQR in which $\overline{PQ} = 9.5$cm, $<RPQ = 60^0$, and $\overline{PR} = 7.5$cm. Measure length $\overline{QR}$.

a) By bisecting any two sides, circumscribe triangle PQR.

b) Measure the radius of the circle formed.

14. The S.1, 2013 class at Gayaza High School planted a variety of crops on their respective plots at the school farm. After harvesting, sales were as shown in the table below;

Crops	Quantity Harvested	Cost
Cabbage	400 heads	Shs 1,000 per head
Cucumber	80 kgs	Shs 1,000 per Kg
Beans	100 kgs	Shs 2,000 per Kg
French Beans	60 kgs	Shs 1,500 per Kg
Beet root	40 kgs	Shs 4,500 per Kg

a) Calculate the total amount of money obtained from the sales.

b) If 500,000/= was spent on buying seeds and pesticides, how much profit was made?

c) The 240 students in S.1 shared the profits equally. How much did each student get? (Give your answer to the nearest hundreds of shillings.)

d) What percentage of students actively participated in this project given that only 80 students worked on their plots? (Give your answer to 1 decimal place.)