THE UNITED REPUBLIC OF TANZANIA
PRESIDENTS OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

MWANZA REGION

REGIONAL FORM TWO MOCK ASSESSMENT

041 BASIC MATHEMATICS

Time: 2:30 Hours **Year: 2025**

1. This paper consists of ten **(10) compulsory** questions. Each question carries **ten (10)** marks.
2. Show clearly all the working and answers in the space provided.
3. All writing must be in **blue** or **black** ink **except** drawings which must be in pencil.
4. Mathematical tables, geometric instruments and graph papers may be used where necessary.
5. All communication devices, calculators and any unauthorized materials are **not** allowed in the Mock Assessment room.
6. Write your **Mock Assessment Number** at the top right corner of every page.

For Examiners' Use Only		
Question Number	**Score**	**Examiner's Initial**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Total		
Checker's Initial		

This paper consists of **8** printed pages

1. (a) Ujiji Cooperative business enterprise owns a SACCOS which provides loans to customers. Each day, a SACCOS collects 125,000 Tanzanian shillings from the customers. If the collection was done for twelve days and 697,500 Tanzanian shillings of the collected money was used to build the office for the enterprise:

(i) What percent of the collected money was left in the SACCOS' account?

(ii) How much money was taken to build the office every day?

(b) Arrange the numbers $\frac{2}{3}$, 0.75, $0.3\dot{4}$, and 50% in a descending order of size.

2. (a) Mrs. Josia is 1 m 63 cm tall. She is 4 cm 26 mm taller than Mrs. Jembe.

(i) What is the height of Mrs. Jembe?

(ii) Convert the height in (i) into decametres.

(b) A businessman purchased 251 rulers from a shop. If he wants to pack all the rulers in the boxes to be transported and a box can hold only 7 rulers.

(i) Approximate the required number of boxes.

(ii) Determine the number of rulers which will be left unpacked.

3. (a) With one example in each case, describe the following types of angles as applied in Mathematics:

(i) An acute angle

(ii) Reflex angle

(iii) Complementary angles

(iv) Supplementary angles

(v) Obtuse angle.

(b) The length of a rectangular plot is longer than its width by 4 metres. If the perimeter of the plot is 216 metres, find:

(i) The dimension of this plot.

(ii) The area of the plot in cubic metres.

4. (a) Use the method of completing the square to solve the quadratic equation $4y^2 - 8y + 3 = 0$

(b) Nyamizi is one – third younger than Elice. After 5 years, the sum of their ages will be 50.Find their present ages.

5. (a) Julieth, Jane and Janeth shared 119,840 Tanzanian shillings such that, Julieth got twice as much as Jane, and Jane got twice as much as Janeth. How much did Julieth get?

(b) A television was sold at a loss of 20%. If the buying price was 200,000 Tanzanian shillings. Find the selling price of this television.

6. (a) Line l_1 is represented by the equation $2y + 3x + 1 = 0$. Evaluate:

(i) The gradient of this line.

(ii) The coordinates of its x – intercept.

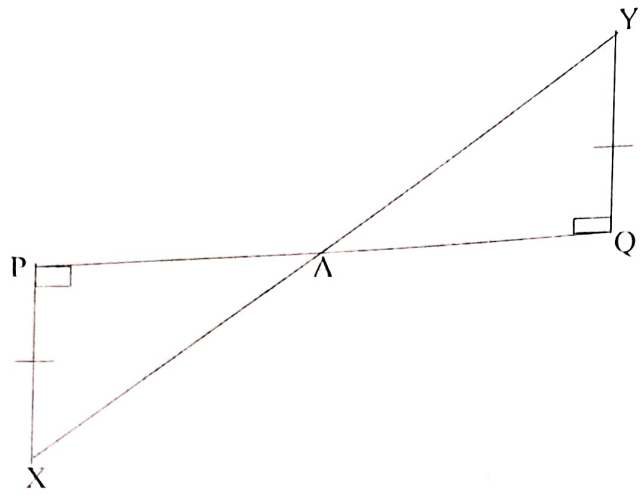
(iii) The coordinates of its y – intercept.

(b) The vertices of triangle RST are given as R (-4, 1), S (-4, 4) and T (-2, 1). Find the coordinates of the image of this triangle when it is reflected in the x – axis and then draw the image of this figure on the x – y plane.

7. (a) A rectangular room has an area of $(4 + 2\sqrt{3})$ m^2. If one side of the room is $(3 + 2\sqrt{3})$ m, find the length of the other side in surd form.

(b) Solve the following exponential equation: $4^x - 6(2^x) + 8 = 0$ by making a substitution $2^x = r$.

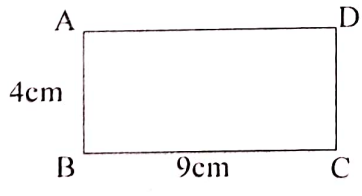
8. (a) In the following figure, PX and QY are perpendicular to PQ and PX = QY.

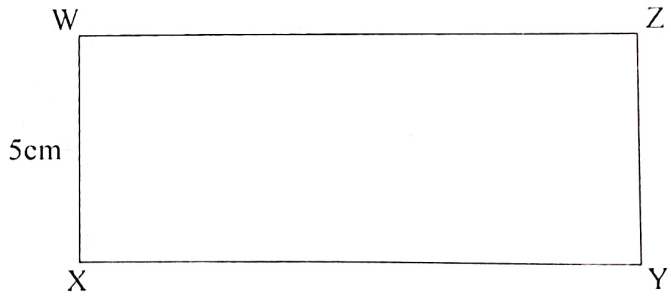


Prove that the two triangles XPA and YQA are congruent.

(b) State two necessary conditions for two figures to be similar.

(c) Given that rectangle ABCD is similar to rectangle WXYZ. If BC = 9 cm, AB = 4 cm and WX = 5 cm, calculate the length of XY.





9. (a) The diagonal of a rectangular plot of land is 4 m long and makes an angle of 30° with its length. Find:

(i) The length and width of the rectangular plot.

(ii) The length of a wire needed to enclose the plot.

(b) Find the value of x given that $\log_a x = \frac{1}{2}\log_a 4 + \frac{1}{3}\log_a 27$

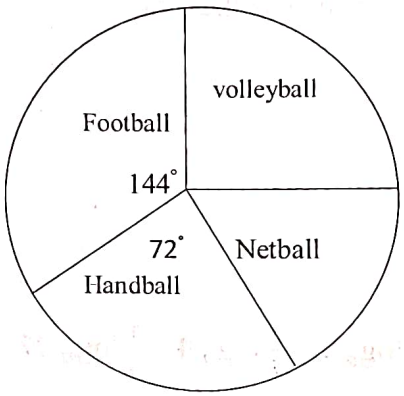
10. (a) There are 100 farmers at Mbweyela village in which 68 cultivate beans, 35 cultivate maize and ten farmers cultivate neither crop. If B and M are sets of those who cultivate beans and maize respectively:

(i) Draw a Venn diagram to illustrate these information.

(ii) Use the Venn diagram to find the number of farmers who cultivate beans or maize

(iii) How many farmers cultivate maize only?

(b) The following pie chart represents the distribution of Form two students who were selected to participate in sports activities. If there are 200 students who were selected:



(i) How many students participate in netball and volleyball?

(ii) Calculate the percentage of students who participate is handball.