MKALAMA DISTRICT COUNCIL

FORM TWO MOCK ASSESSMENT

BASIC MATHEMATICS

Time 2.30 Hours **MAY, 2025**

INSTRUCTIONS

1. This paper consists of **Ten (10) Compulsory Questions**, each question carries **ten (10) marks**
2. Show clearly all the working and answer in the space provided
3. All writing must be in blue or black ink except drawing which must be in pencil
4. **NECTA mathematic tables**, geometric instruments and graph paper may be used where necessary
5. Cellular phones and any unauthorized materials are not allowed in the examination room.
6. Write your assessment number on every page of your answer sheet(s)

1. a) Amina, Juma and Ally are training themselves about how to lap in their music. Amina, laps once every 9 minutes, Juma laps once every 15 minutes, and Ally laps every after 20 minutes. How long will it take for them to lap together?

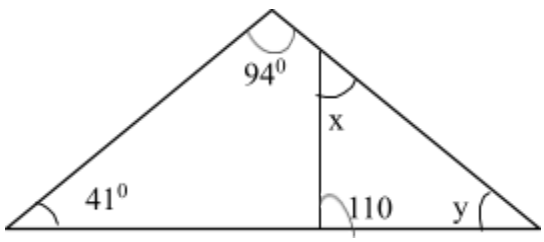
   b) The total mass of cotton harvested in Maswa district was $17\,816\,273\ kg$. Round off this Mass to the nearest;
   i. Millions of kilograms

   ii. Thousands of kilograms

2. a) Geoffrey spent $\frac{5}{9}$ of his income and remained with 88200 Tanzania shillings what was his income?

   b) Which one is greater between $\frac{15}{24}$ and $\frac{7}{72}$? Show how you arrived to your answer

3. a) Calculate the size of angle x and y in the following figure



   b) The floor of a room is a square of length 5 meters. Find its Perimeter and Area

4. a) Evaluate $672^2 - 328^2$

b) Given that m*n = $\frac{m-n}{m+n}$ find (3 *2)

c) Solve $-2y^2 + 7y - 6 = 0$ by using formula

5. a) If a:b= 2:3 and b:c=5:6 find value of a:c

b) A shopkeeper bought a radio for Tsh 80,000 and sold it a profit of 20%. What were the profit and selling price?

6. a) Find the image of point $P(3, 1)$ when it is;
   i. Reflected in the $x - axis$
   ii. Reflected in the line $y = x$

   b) Find the equation of the straight line in form of $y = mx + c$ passing through the point $(-4, 5)$ and $(-2, 1)$

7. a) solve for x in $\left(\frac{3}{5}\right)^{x-6} = \left(\frac{25}{9}\right)^{x}$

   b) i).Given $log3 = 0.4771$ and $\log 5 = 0.6990$. Evaluate $log45$

   ii) Rationalize the denominator of the following expression, $\frac{\sqrt{2}}{\sqrt{3}+\sqrt{2}}$

8. (a) Find the solution of $|2x + 1| > 3$ and represent it on a number line

   b) Given that $T = 2\pi\sqrt{\frac{L}{G}}$ make **"*L*"** the subject of the formula

9. a) Find the exact value of $2\sin 60^0 + \text{Cos } 30^0$

   b) The adjacent sides of right angled triangle have lengths 5cm and 12cm .Find the length of the hypotenuse.

10. (a) Solve the following simultaneous equations by substitution method.

$$3x - 2y = 8$$

$$2x + 5y = -1$$

(b) John is 6years older than Amina. If the sum of their ages is 30years, find Amina's age.