

THE PRESIDENT'S OFFICE**REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT****ITILIMA DISTRICT COUNCIL****FORM TWO DISTRICT MOCK ASSESSMENT****041****BASIC MATHEMATICS****TIME: 2:30 HRS****Monday, 9th August 2021 A.M****Instructions**

1. This paper consists of ten (10) **compulsory** questions
2. Show clearly all the working and answers in the space provided
3. All working must be in **blue** or **black ink** except drawings which must be in pencil
4. Mathematical tables or graph papers may be used
5. Write your **assessment number** at the top right corner of every page

FOR EXAMINER'S USE ONLY		
QUESTION NUMBER	SCORES	EXAMINER'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		

1 (a) Write the number 0.003451

(i) Correct to three (3) significant figures

(ii) In standard notation

(b) Find the sum of GCF and LCM of 6, 12, 18 and 36.

2. (a) Decrease Tsh.160000 by 16%

(b) Change $a = 2.\dot{5}$ in the form of $\frac{a}{b}$ where $b \neq 0$ and hence evaluate $9a$.

3 (a) If $(2^{x-2})(3^{3y-3}) = 72$ what is the value of $\frac{2x+5y}{4}$

(b) If $5x^2 + hx + 5$ is a perfect square, find the value of h

4. (a) Find the principle amount deposited after 4 years to earn a simple interest of Tshs 70,000/= at the rate of $2\frac{1}{2}\%$ interest per annum

(b) If $A : B = 1 : 3$ and $B : C = 1 : 2$, what is proportional of $A : B : C$

5. (a) The line joining points $A(k, 5+k)$ and $B(2k, 2)$ has a gradient of 2. Find the coordinate of the given points

(b) The length of a ground pitch is twice of its width. If the area of the pitch is $800m^2$

Find its perimeter.

6. (a) Make U as the subject of the formula in $S = \frac{1}{2}(u+v) t$

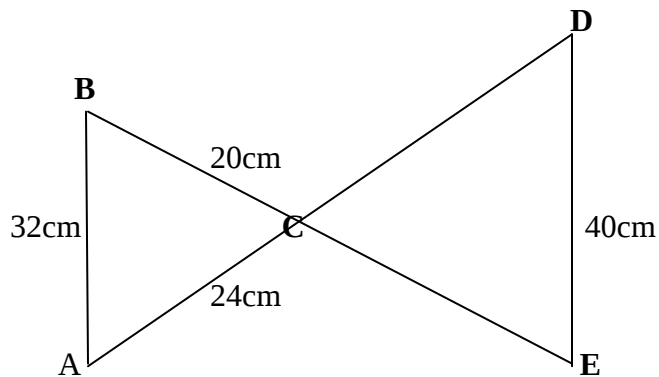
(b) If $\log_{10}2 = 0.3010$ and $\log_{10}3 = 0.4771$, find the value of $\log_{10}0.72$.

- 7 (a) Find two numbers such that three times the first number added to twice the second number gives 30, and twice the first number added to the second number gives 17.

(b) Use the figure bellow to

(i) Prove that $\triangle ABC$ is similar to $\triangle EDC$

(ii) Calculate the length of $\overline{EC}$ and $\overline{CD}$



8 (a) Find the image of the point P (3,2) when it is:

(i) Reflected in the Y-axis.

(ii) Reflected in the line $Y=X$.

(iii) Translated by the point S (2, -4). (Use the formula)

(b) Given that $\sin A = \frac{3}{5}$ where A is an acute angle, find without using mathematical tables

The value of $\frac{1 - \sin A}{1 - \cos A}$

9. (a) Solve the equation $x^2 + 5x - 14 = 0$ by using quadratic formula method.

(b) Neema bought a tray of eggs (containing 30 eggs) for Tshs. 7500/=, she boiled the eggs using a litre of kerosene costing Tshs. 1200/= and sold each egg at a price of Tshs.350/= each, find her percentage profit.

10. (a) There are 100 form two students in a school, of whom 65 students play football and 30 students play netball. 12 students play neither game. By using vein diagram. Find the number of students who play both football and netball

- (b) The marks of students are represented in the following table

Marks in %	30	35	45	50	60	75	80	85	90
No. of students	3	4	7	10	18	9	4	3	2

From the table answer the following questions:

- i. How many students are there?
- ii. Which mark was scored by greatest number of students?
- iii. What was the highest mark?
- iv. If 50% was the pass mark in the examination, how many students passed the examination?
- v. Calculate the percentage of students who scored less than 60%