Student's Assessment Number……

THE PRESIDENT'S OFFICE

REGIONAL ADMINISTRATIVE AND LOCAL GOVERNMENT

LINDI REGION

FORM TWO MOCK EXAMINATIONS

BASIC MATHEMATICS

TIME: 2:30 *HOURS* **MAY 2021**

Instructions

1. This paper consists of **ten (10) compulsory** questions
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. NECTA mathematical tables, geometric instruments and graph paper may be used where necessary
5. Calculators are NOT allowed in examination room
6. All communications devices and any unauthorized materials are not allowed in the examination room
7. Write your assessment number at the top right corner of every page

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1. (a) Find the product of LCM and GCF of 12, 18 and 24

   (b) Write 0.9651 correct to:
   i. Two decimal place

   ii. One significant figure

2. (a) Arrange $\frac{2}{5}$, $\frac{5}{8}$, 48% and 0.6 in ascending order

   (b) Madam Zuleikha deposited $\frac{5}{12}$ of her money in bank, $\frac{1}{8}$ on her house rent and $\frac{1}{11}$ of the remaining for food. If she remained with $Tsh\ 120{,}000/=$
   i. What is her total money at the beginning

ii. How much money did she use for house rent?

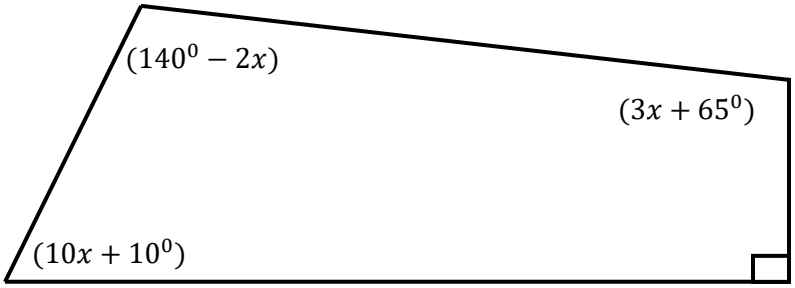
3. (a) Convert:

i. $4km + 8hm$ into cm

ii. $24\ hours$ into $seconds$

(b) The amount of $Tsh\ 1{,}500{,}000/=$ was divided amoung Fatuma, Juma and Kisweka in the ratio of $3:5:7$. How much money did each get?

4. (a) Find the value x from the figure below



(b) The perimeter of the rectangle is $40m$. If its width is $8cm$, find the area of this rectangle

5. (a) If $u * v = uv + v$. Find
   i. $2 * 5$

   ii. x given that $(x * 2) * 5 = 60$

(b) Solve the following system of simultaneous equation: $\begin{cases} 2x + y = 5 \\ 3x - 4y = 2 \end{cases}$

6. (a) What number must be added to $x^2 + 6x - 1$ to make it a perfect square

(b) Solve $x^2 + 7x + 10 = 0$ by completing the square.

7. (a) Given $3x - 2y = 1$, find
   i. the gradient

   ii. $y - intercept$

(b) The gradient of the straight line that passes through the point $P(2,-7)$ and $Q(3,a)$ is $\frac{1}{2}$, find

i. The value of a

ii. The equation of the straight line PQ

8. (a) Find the value of x and y given $(2^{x+1})(3^{y-4}) = 1296$

(b) Rationalize the denominator: $\frac{2}{2\sqrt{3}+\sqrt{2}}$

9. (a) Simplify: $3\log 5 + 2\log 4 + \log 8 - 2\log 4$

(b) Use the mathematical table to evaluate: $\frac{0.0728 \times 35.62}{\sqrt{8.25}}$

10. From the figure below, prove that $\Delta PQR \equiv \Delta PSR$ and then identify the value of x and y