THE UNITED REPUBLIC OF TANZANIA

PRESIDENTS OFFICE

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

HOME PACKAGE FORM TWO EXAMINATION, APRIL 2020

CODE:041   BASIC MATHEMATICS

TIME   2:30 HOURS

INSTRUCTIONS
1. This paper consists of **ten (10)** compulsory questions.
2. Show clearly **All the Working** and answers
3. Four figure mathematical tables geometric instruments and graph papers **May be Used** where necessary

FOR EXAMINER'S USE ONLY

QUESTION NUMBER	SCORE	EXAMINER'S INITIALS
01		
02		
03		
04		
05		
06		
07		
08		
09		
10		
TOTAL		

1. a) Find fractional notation for the following:-
    i) 0.833.......   ii) $0.83\dot{5}$

   b) i)Solve for R and S in the following list of equivalent fractions:-
   $$\frac{1}{3}, \frac{5}{15}, \frac{R}{24}, \frac{15}{48}, \frac{18}{S}$$
    ii) Mariam was given 20,000/= by her father. She spent 48% of it to buy shoes. How much money remained?

2. a) Evaluate 0.3143 by 6.06 giving the answer correct to 3 significant figures.
   b) i) Indicate the power, base and exponent in the number a^5
    ii) Simplify the expression $a^4b^3a^{-2}b^{-1}$ and write the answer with a single exponent.

3. a) Express the number $\dfrac{2+\sqrt{3}}{\sqrt{2}-\sqrt{5}}$ in the form of $\dfrac{\sqrt{a}}{b}$

   b) Determine y from the following equation $\log(y^2+3y-44)=1$

4. a) By using the knowledge of difference of two squares
    Find : i) $23756^2-23754^2$ ii) 672^2-328^2
   b) Find the product of (x +2) and (x − 5)

5. a) Find the equation of a line containing the following pairs of points: (7,9), (2,5)
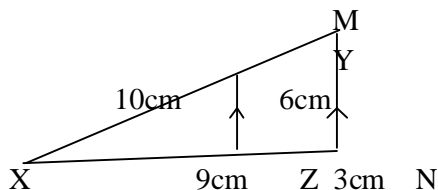   b) If the gradient of the line $ky+(2k+3)x=4$ is 5, find the value of k.

6. a) Study carefully the figure below where

$\angle BAC = 50°$ and° $\angle ABC = 70°$, then find the value of :

    i) x, y and z

    ii) x + y + z
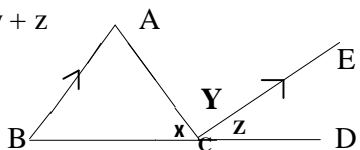
  b) From the figure below triangles XYZ and XMN are equingular and similar. Calculate:

    i)   MN

    ii) MY

7. a) Arrange in increasing order after converting each of the following into metres.

    i)   68hm   ii) 0.68km   iii) 16800cm

  b) Evaluate; h   min s

              25   18 43

            x   21

8. a) Calcium and chlorine combine in the ratio 9:16. Calculate the mass of chlorine that will combine with 5g of calcium.

  b) Find the principal that will earn Shs. 72,900 at the rate of $2\frac{1}{2}\%$ per annum in 8 years.

9. a) The mass of a bottle full of mercury is 1kg and that of empty bottle is 184g. What was the mass of mercury?

  b) Factorize $5a^2 - 45$

10. a) Find the coefficient of x in the expansion of $(x+9)(x+3)$

  b) Solve the equation $x^2 + 5x - 14 = 0$ by completing the square.