THE UNITED REPUBLIC OF TANZANIA

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

DR. TULIA ACKSON SECONDARY SCHOOL

FORM ONE MONTHLY EXAMINATION ASSESMENT

043 MATHEMATICS

TIME: 2:30 Hours **Saturday, 19th September 2026.**

Instructions

1. This paper consists of ten **(10)** questions.
2. Answer **ALL** questions.
3. All work done and answers of each question must be shown clearly in the space provided.
4. Communication devices and any unauthorized materials are not allowed in the examination room.
5. Non-programmable calculators and mathematical tables may be used.
6. Write your **Full Name** at the top right corner in the space provided.

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

1. (a) Briefly explain *two* (**2**) areas where we apply mathematics. **(2 marks)**

   (b) Explain *three* (**3**) branches of mathematics. **(3 marks)**

   (c) State *five* (**5**) significance of learning mathematics. **(5 marks)**

2. (a) If $x = 0.\dot{2}$, $y = 0.\dot{4}$, $z = 0.\dot{1}$, Evaluate the value of the $z + yz$. **(4 marks)**

   (b) If $x = 0.\dot{3}$ and $y = 0.\dot{6}$ verify that $y^2 = x^2 + x$. **(3 marks)**

   (c) The fraction, $a\ \frac{b}{c}$ is equivalent to $5.\dot{1}6\dot{5}$ Find the values of $a, b\ and\ c$. **(3 marks)**

3. (a) Convert $0.\dot{1}$ into fraction and hence find the value of $(0.\dot{1}\ \times 27)$. **(4 marks)**

   (b) Evaluate $0.\dot{2} + 0.\ddot{5}\dot{1}$ giving your answer as a fraction. **(3 marks)**

   (c) Write each of the following repeating decimals by using a dot and a bar.

   (i) $0.3333\ldots$ **(1 mark)**

   (ii) $0.639639639\ldots$ **(1 mark)**

   (iii) $0.474747474\ldots$ **(1 mark)**

4. (a) Find $(5x - 2y):(3x - y)$ in its lowest form if $x:y = 4:9$. **(5 marks)**

   (b) The denominator of a fraction exceeds the numerator by 5. If 4 is subtracted from the numerator and the denominator remains unchanged, the resulting fraction is $\frac{2}{5}$. Find the original fraction.

   (5 marks)

5. (a) Show that $|x - y| = |y - x|$ for all real numbers $x\ and\ y$. **(3 marks)**

   (b) If $r = 5$, find all possible solutions to the following equation $|x - r| = |r - 2x|$ and graph it on a number line. **(4 marks)**

   (c) Prove that: $|x|\ |y|$ if and only if $x = y\ or\ x = -y$. **(3 marks)**

6. Write:

   (a) 34.996 correct to 2 decimal places. **(3 marks)**

   (b) 35.0482 correct to 3 significant figures. **(3 marks)**

   (c) A tablet contains 0.1763688 milligrams of a certain chemical. A dose requires a child to take $\frac{1}{2}$ a tablet, three times a day for 7 days. Find the total amount of chemical in the dose correct to hundredths of a milligram. **(4 marks)**

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7. (a) Evaluate of the following: $6n + 8m + 4n - 5m, if\ m = -3\ and\ n = 4$. **(3 marks)**

(b) Write the statement into a $variable$ expression: "The difference between six and the quotient of a number and twelve". **(3 marks)**

(c) The sum of the two consecutive integers is 31. Find the smaller number. **(4 marks)**

8. (a) A certain school placed two orders with the stationery dealers. The first order was 50 boxes of marker pens and 20 boxes of correction fluid for the total amount of $40{,}000/=$ Tanzanian shillings. The second order was 10 boxes of marker pens and 20 boxes of correction fluid for the total amount of $24{,}000/=$ Tanzanian shillings.

(i) Formulate a system of simultaneous equations that describes the cost of a box of marker pen and a box of correction fluid. **(3 marks)**

(ii) Calculate the cost of a box of marker pens. **(3 marks)**

(b) Determine the solution of each of the following inequalities. $\sqrt{2(x+1)} \geq 0$ **(4 marks)**

9. (a) Find the third proportional of $2n^2$ and $3n^2$. **(4 marks)**

(b) Find the solution of the simultaneous equation: $\begin{cases} \frac{3}{y} - \frac{4}{x} = -5 \\ \frac{2}{x} - \frac{5}{y} = 6 \end{cases}$. **(6 marks)**

10. (a) Points A, B, and C are vertices of the a right-angles triangle at C. If the coordinates of A and C are $A\ (0, -3)$ and $C(5, -7)$, what are the coordinates of points B? **(3 marks)**

(b) Two roads whose equations are $2x + 3y = 7$ and $x - 3y + 4 = 0$ intersect at points P. A new road is to be constructed from $A\ (5, 5)$ to point P. Find the equation of the new road in the form of $ax + by = c$. **(4 marks)**

(c) Find x and $y - intercepts$ of the straight line $3x - 2y + 10 = 0$. **(3 marks)**

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**********BEST WISHES**********

"Every Great Achievement Starts with Mathematics"

Prepared By Sir Quantum Hustler September 2026.

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