Candidate's Examination Number……

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
FORM TWO SECONDARY EDUCATION EXAMINATION

0041 **BASIC MATHEMATICS**

Time: 2:30 Hours **Tuesday, 17th November 2015 a.m.**

Instructions

1. This paper consists of sections A and B.
2. Answer **all** questions showing 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. Mathematical tables, geometrical instruments and graph papers may be used where necessary.
5. **All** communication devices and calculators are **not** allowed in the examination room.
6. Write your **examination number** at the top right corner of every page.

FOR EXAMINER'S USE ONLY					
QUESTION NUMBER	**SCORE**	**EXAMINERS' INITIALS**	**QUESTION NUMBER**	**SCORE**	**EXAMINERS' INITIALS**
1			14		
2			15		
3			16		
4			17		
5			18		
6			19		
7			20		
8			21		
9			22		
10			23		
11			24		
12			25		
13					
TOTAL					

SECTION A (60 MARKS)

Answer all questions in this section

1. Calculate the value of $x + y + 2z - 12$, when $x = 5$, $y = 8$ and $z = 9$.

---

2. The number of students who sat for the Primary School Leaving Examination (PSLE) in 2013 was 844,938. Express this number in standard notation.

---

3. If A and B are complementary angles such that angle A is $18°$ less than angle B, determine the angles.

---

4. Find the value of x in the equation $\frac{6}{x+1} = 12$.

---

5. Simplify the expression $9(a-3b)+5(4b+a)-b$.

6. When 6 is subtracted from a certain number, the result is greater than 29. Write down an inequality that represents the possible values of this number.

7. Without using mathematical tables, evaluate: $\frac{(0.136)^2-(0.148)^2}{0.136+0.148}$.

8. The length of one side of a square is $(3x+4)$ cm. If the side lengths of this square are doubled, find the equation for the perimeter after changing the length of the square.

9. Find the value $\frac{a}{b}$, given that $3^a \times 5^b = 675$.

10. The football ground at Merisa secondary school is $12\frac{1}{2}$ times as long as the length of the basketball ground. If the football ground is 100 meters long, find the length of the basketball ground.

11. Represent the solution set of the inequality $3x + 4 \geq 25$ on a number line.

12. In a certain animal farm 10% of the animals are horses, $\frac{1}{4}$ are goats, 0.15 are sheep and $\frac{1}{2}$ are cattle. Arrange these numbers in ascending order.

13. Write 750 grams as a fraction of 5 kilograms.

14. If John is x years old and Mary is 3 years older than John, write down an equation for the sum of their ages

15. Determine the value of x that satisfies the equation $\frac{x-y^2}{x+2} = 7$ given that $y = 2$.

16. Write $4\log 2 - \frac{1}{2}\log 64$ as a single logarithmic expression.

17. Find the product of the G.C.F and L.C.M of 4, 8 and 12.

18. If the straight line AB that is passing through the points $A(2, 6)$ and $B(t, 3)$ has gradient -1, find the value of t.

19. If a triangle has two equal sides of length x cm each and the third side measures 6 cm more than the length of these congruent sides, write down an equation that represents the perimeter of this triangle.

20. Kapona bought a computer for 250,000/= and sold it after one years at a loss of 5 percent. Calculate the amount of the loss.

SECTION B (40 Marks)

Answer **all** questions in this section

21. The area of a rectangular room is 1125 cm^2 . If its length is five times its width, find its perimeter.

22. Evaluate $\frac{1.34\times5.804}{\sqrt{0.4391}}$ using logarithmic tables.

23. A ladder 15m long leans against a vertical wall such that the top of the ladder makes an angle of 63 degrees with the vertical wall. Find the height of the wall.

24. In a class of 50 students, 16 like watching television, 41 like reading story books and 7 do not like neither watching television nor reading story books. Find the number of students who like both watching television and reading story books using the formula.

25. In the figure below $\overline{EF} = \overline{FG}$ and $\overline{EH} = \overline{HG}$. Show that triangles EFH and GFH are similar.

