**THE UNITED REPUBLIC OF TANZANIA**

**PRESIDENT’S OFFICE, REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**

**LINDI REGION**

 **MATHEMATICS FORM FOUR MONTHLY TEST – FEBRUARY 2019**

**SECTION A (60 Marks)**

1. (a) Express 0.96**0** in the form of  where b ≠ 0

(b) If P \* q = P + 4q, find x given that 3\*(x \*1) = 27.

1. (a) Rationalize the denominator of 

(b) It log**y**+ 2log(3x + 1) = 1, Make y the subject of the formula.



1. (a) There are 48 men at a meeting of whom 24 are teachers, 36 are parents and 16

 are both teachers and parents. By using Venn diagram. Find the number of men

who are neither teachers nor parent.

(b) Find equation of a line passing through the point A(2,3) which is parallel to the line

with equation y – 2x + 10 = 0

1. Two regular pentagons have areas in the ratio 4:9.
2. What is the ratio of their sides
3. If the smallest pentagon has side of 4cm. what is the side of the large pentagon?
4. (a) In the figure below, calculate the length BD



(b) A bus travels 100km using 10.5 Litres of diesel. How many litre are required to drive

40k?

1. (a) If x varies directly as y and inversely proportional as Z**2**. If x = 3, y = 16 and Z = 2. Find

 the value of Z If x = 5 and y = 6.

(b) Make L the subject of the formula

 T = 2π

1. (a) Find time in which sh 300,000/= will earn an interest of sh 60,000/= if the interest

 rate is 10% per annual.

(b) If a ratio bought for sh 400,000/= and sold for sh 500,000/=. Find

1. The profit made
2. The percentage profit
3. (a) The first term of arithmetic progression is 12 and the commondifference is 10. Find

the n**th** term.

(b) Find the amount of money accumulated at the end of 2 years after investing

50,000/= at a compound interest rate of 10% annually.

1. (a) Find two consecutive odd numbers whose product is 195.

(b) What must be added to x**2** + 8x to make expression the perfect square?

1. (a) If f(x) = . Find 

(b) State domain and range of 

**SECTION B (40 Marks)**

**Attempt only four (4) questions from this session**

1. The following table shows age of 56 people in a certain village

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age** | **20 – 28** | **29 – 37** | **38 – 46** | **47 – 55** | **56 – 64** | **65 – 73** |
| **Frequency**  | 7 | 8 | 10 | 14 | 12 | 5 |

Calculate

1. Mode age
2. Median age
3. Percentage of youth if youth age is less than 38.
4. (a) If f is a function defined by

 X if x≥2

F(x) = 3 if -2 < x <2 

 X + 1 if x ≤ -2

1. Draw graph of f(x)
2. Find value f(-1)

(b) If a box containing 3 blue chalks, 2 re chalks and 5 black chalks. Find probability to pick black

chalk.

1. Find distance between A(300N,13q0E) and B(450N, 13q0E)
2. In km use Radius of the earth R=6400km.
3. In nautical miles (n.m).
4. The following is a rectangular prism in which AB = 16cm, BC = 12cm and = 5cm



1. Find angle between a line PB and plane ABCD
2. Find total surface area of prism
3. Find volume of the prism in litres
4. Wema company started a business in 1st feb 1980 with capital 15,000/= the transactions were made

Feb 2: Bought new shelves for cash 2,000/=

 3: Bought goods from Ujamaa 7,000/=

 5: Bought more goods from market 5,000/=

 10: Sold goods for cash 3,000/=

 15: Sold goods to Mr Simba 5,000/=

 16: Paid Katumba 4,000/=

 19: Sundry express 500/=

 20: Paid wages 1,000/=

1. Prepare cash account
2. Prepare ledge for purchase
3. (a) A = 2 5

 4 3

Find AA**-**

(b) Use matrix method to solve the following simultaneous equation

 2X + 3y = 5

 3x – 2y = 1