***KIIRA COLLEGE BUTIKI ATHEMATICS CLUB  
MAHTLETICS CONTEST 2019  
JUNIOR MATHLETES CATEGORY  
TIME:3HRS:15MINS***

***SECTION A (****5* ***Marks each)***

***Qn.1.*** Evaluate   
***Qn.2.*** Solve the equation given below for :

***Qn.3.*** What is the last digit of ?

***Qn.4.*** Points and are on a circle of radius and . Point is the midpoint   
 of the minor arc . What is the length of ?

***Qn.5.*** How many of the two digit numbers have both their digits as odd numbers?

***Qn.6.*** In the figure below, the area of the common region formed by four congruent  
 circles in a square is 4. Find the area of the square outside the four circles  
 and their common region.

***Qn.7.*** Given that and . What is the sum of the reciprocals of and   
 ?

***Qn.8.*** Suppose that , find the value of

***Qn.9.*** You are given the following multiplication examples:

Which unique number makes the last multiplication valid?

***Qn.10.*** Ronnie’s salary last year was Shs.123456789. It was increased by 300%  
 and later reduced by only 75% but Ronnie was not happy at all.   
 Why was it so?

***SECTION B (****10* ***Marks each)***

***Qn.11.*** Four students named Abel, Bob, Clarence and Dee are seated around a  
 circular table in that order, prepared to play cards. To decide who goes first  
 in the game, they play a count down. Abel counts 208, Bob cunts 207,  
 Clarence 206 and so on. If they keep on counting in that order, who will go  
 first in the game? (The person who counts one goes first in the game.)

***Qn.12.*** The Bronx family was having a conversation one night. Mom said “to get my  
 age, you reverse the digits of Dad’s age.” The children asked for more  
 information, and mom added that the difference of their ages was eleventh  
 of the sum of their ages. How old are the Bronx parents.

***Qn.13.*** In a certain village, there are 35 families. Each family has one, two or three  
 bicycles. The number of families with one bicycle is equal to the number of  
 families with three bicycles. How many bicycles are in the village?

***Qn.14.*** A magic square is given below; complete it by filling in the empty boxes, so   
 that the sum in each major diagonal, row or column is the same.

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***Qn.15.*** The police arrested four suspects who know one another and are very tricky  
 They know very well, who has stolen the phone, but the police could not  
 find it with any of them;

**Cecilia** : Bernard stole the phone.  
 **Albert** : I didn’t steal the phone.  
 **Bernard** : Albert is lying.  
 **Denise** : Bernard is lying.

If only one of them is telling the truth, who stole the phone?