

# Panini Linguistics Olympiad 2017 (JUNIORS)

## Solutions

### Problem #1: Akamu's Table

Box Number	Word	Box Number	Word
(a)	<i>kolu</i>	(g)	<i>iva</i>
(b)	<i>iwa</i>	(h)	<i>rua</i>
(c)	<i>rima</i>	(i)	<i>toru</i>
(d)	<i>'ua</i>	(j)	<i>tolu</i>
(e)	<i>'ima</i>	(k)	<i>fa</i>
(f)	<i>hitu</i>	(l)	<i>valu</i>

The vowels remain exactly the same across the languages. The pattern across consonants is described by the columns in the following table:

	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8
<b>Hawaiian</b>	k	h	<i>\$h</i>	l	m	n	?	w
<b>Maori</b>	t	h	<i>\$wh</i>	r	m	n	?	w
<b>Nuku Hiva</b>	t	h	<i>\$h</i>	'	m	n	?	v
<b>Rarotonga</b>	t	'	<i>\$'</i>	r	m	n	ŋ	v
<b>Samoa</b>	t	s	<i>\$f</i>	l	m	n	ŋ	v

**Note** that column three (characters beginning with \$) indicates consonants that are placed at the beginning of a cardinal number. Maori and Samoa treat the consonant at the beginning of their words differently than the other three languages.

## Problem #2: Chamorro Months

<b>Assignment 1: Write down the name of the Chamorro Months and their English equivalents</b>		
<b>Chamorro Months</b>	<b>English Equivalents</b>	
1) <i>Ineru</i>	January	
2) <i>Måtsu</i>	March	
3) <i>Abrit</i>	April	
4) <i>Måyu</i>	May	
5) <i>Hulio</i>	June	
6) <i>Huño</i>	July	
7) <i>Agosto</i>	August	
8) <i>Oktubri</i>	October	
9) <i>Nubembre</i>	November	
10) <i>Disembre</i>	December	
<b>Assignment 2: Write down the two missing month names in Chamorro and their English equivalents.</b>		
<b>Chamorro Month Name</b>	<b>English Equivalent</b>	
11) Fibreru OR Febreru	February	
12) Septembre	September	

### Assignment 3: 6 marks

1. There was an original Chamorro calendar.
2. Tashi's grandmother uses those month.
3. Spanish people introduced the Gregorian calendar later.
4. Slowly the Chamorro speakers started using the new (Gregorian calendar).  
It was introduced in schools (education).
5. Tashi's parents, being the new generation adopted it.
6. But grandmother, being older still uses the old system.

### Problem #3: Yash in Rwanda

Total Objective: 11 marks

<b>Assignment 2: Translate to English</b>
a) <i>Ibaruwa araandikwa nabogabo</i> <b>The men are writing the letter. (OR: The letter is being written by the men.)</b>
b) <i>Ibaruwa araandikwa numugore kuabogabo</i> <b>The woman is writing the letter for the men. (OR: The letter is being written by the woman for the men.)</b>
c) <i>Abogabo barabonera umugore abohungu</i> <b>The men are seeing the boys for the woman.</b>
<b>Assignment 3: Translate to English</b>
d) <i>Ikarumu araandiishwa ibaruwa numagabo</i> <b>The man is writing the letter with the pen. (Or something semantically equivalent)</b>
e) <i>Abogore barabonerwa abohungu numugabo</i> <b>The man is seeing the boys for the women. (Or something semantically equivalent)</b>
<b>Assignment 4: Translate to Kinyarwanda</b>
f) The boys are writing the book. [2 translations] Translation 1: <i>Abohungu <u>baraandika</u> igitabo</i> Translation 2: <i>Igitabo araandikwa <u>nabohungu</u></i>
g) The boy is writing the book for the women. [4 translations] Translation 1: <i>Umuhungu araandika <u>igitabo</u> <u>kuabogore</u></i> Translation 2: <i>Igitabo araandikwa <u>numuhungu</u> <u>kuabogore</u></i> Translation 3: <i>Umuhungu araandikera <u>abogogore</u> igitabo</i> Translation 4: <i>Abogore <u>baraandikerwa</u> igitabo <u>numuhungu</u></i>

### Explanation:

The basic word order is S-V-(O)-(Obl). Obl stands for the oblique case marked argument (prefixed with *n-* or *ku-*).

The suffix *-er/-iish-* on the verb promotes the instrument (*n-*) or the beneficiary (*ku-*) argument respectively to the status of the primary object (and the primary object becomes the secondary object).

In other words, S V-a O ku-Ben/n-Instr → S V-er/iish-a Ben/Instr O

The suffix *-wa* turns active sentences into passives. The object is promoted to subject and the subject becomes a *n*-marked oblique argument.

In other words,  $S V-a O \rightarrow O V-w-a n-S$ .

*-w-* can also be paired with *-er/-iish-*. First, *-er/-iish-* promotes the oblique argument to object, which is promoted to subject by *-w-*.

In other words:

$S V-a O ku-Ben/n-Instr \rightarrow S V-er/iish-a Ben/Instr O \rightarrow Ben/Instr V-er/iish-w-a O n-S$ .

Finally, the suffix *-a* is added after *er/iish/w*.

The verb agrees with the subject (not necessarily denoted by *S* in the rules above; rather, the argument that precedes the verb) in number. The prefixes for number are: null for singular and *b-* for plural. (Alternatives such as *ara-* for singular, and *bara-* for plural are acceptable.)

Animate nouns have the prefix *umu-* for singular and *abo-* for plural. (One may also add that inanimate nouns (which only appear in the singular in this data) have the prefix *i-*: this is not a true generalisation for Kinyarwanda however, though it is true for this data).

Before their animacy/number prefix, nouns may also take a case marking prefix: *n-* for instruments/agents (“with,” or “by” or instrumental case) and *ku-* for beneficiaries (“for” or dative case).

The stems are:

Nouns: *gabo* - man, *gore* - woman, *hungu* - boy, *alimu* - teacher, *(i)karumu* - pen, *(i)baruwa* - letter, *(i)jisho* - eye, *(i)gitabo* - book

Verbs: *kor* - work, *gend* - go, *bon* - see, *andik* - write

(the student can also mention the stem with the prefixes *ra/ara* etc.- (example, *rakor* or *araandik*) provided that their prefixes for number (eg. null vs. *b-*) are compatible with the stems that they give)

#### Problem #4: A Dozen Miskito Birthdays

Assignment 1: Write down the English translations (only write down the letter A to L) next to the Miskito dates.				
Miskito dates (number)	English Translation (letter)	Miskito dates (number)	English Translation (letter)	
1	D	7	C	
2	G	8	A	
3	F	9	H	

4	I	10	L	
5	B	11	E	
6	K	12	J	
<b>Assignment 2: What does "Kati" mean?</b>				
Month OR Months				
<b>Assignment 3: Write down the following dates in Miskito [5 marks]</b>				
(a) 6 <sup>th</sup> July	Matlal Kahbi, Pastara Kati			
(b) 9 <sup>th</sup> April	Matlal Kahbi pura yumhpa, Lih Wainhka Kati			
(c) 10 <sup>th</sup> January	Matawalsip, Siakwa Kati			
(d) 5 <sup>th</sup> May	Matsip, Lih Mairin Kati			
(e) 7 <sup>th</sup> September	Matlal Kahbi pura kumi, Wis Kati			

**Explanation:**

1 - Kumi

2 - Wal

3 - Yumhpa

\*4 = 2+2 - WalhWalh

5 - Matsip

\*6 = 5+1 - Matlal Kahbi

\*7 = 5+1+1 - Matlal Kahbi pura kumi

\*8 = 5+1+2 - Matlal Kahbi pura Wal

\*9 = 5+1+3 - Matlal Kahbi pura yumhpa


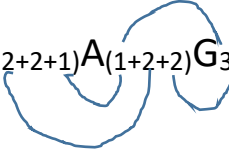


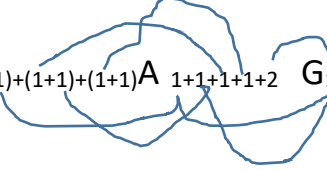
\*10 = 5\*2 - Matawalsip

\*11 = 5\*2 +1 - Matawalsip pura kumi

\*12 = 5\*2 +2 - Matawalsip pura wal

## Problem #5: A Rose by another Name

Total Objective score: 15 marks

Assignment 2: Write down the floral formula for the floral diagrams	
	$K_{(3)+(2)}C_{(2+2+1)}A_{(1+2+2)}G_3$ 
	$K_{(3)}C_3A_3G_1$
	$K_{(3+3)}C_{(1+1)+(1+1)+(1+1)}A_{1+1+1+1+2}G_1$ 

### Explanation:

K = outermost green layer, C = next whorl, A = next – the yellow dots, and G the innermost = orange.

The number of elements in the whorl is subscripted,

Except for G, the number of sides in the polygon is subscripted.

The connected units within a whorl are shown by brackets.

The numbers might be broken down as needed by properties (like connected to some other layer or not) so that connections between whorls are possible to describe.

Connections of units between whorls are represented by arcs.

### Assignment 3:

1. Not clear how to draw a polygon with 2 sides.

2. Can be sorted by drawing 2 conjoined circles, for instance. Any other non-ambiguous representation should be OK.

3. Also, it is not clear why the C is broken into 2 and 2, when all the 4 are connected (as shown by the outer parenthesis) and there are no inner connections.

-----**End of the Answer Booklet**-----