

# Panini Linguistics Olympiad 2018 (JUNIORS)

## Solutions

### Problem #1: Sixteen Japanese Phrases

<b>Assignment 1:</b> Match the translations			
<i>Japanese phrase</i>	<i>English translation</i>	<i>Japanese phrase</i>	<i>English translation</i>
<i>niko tamago</i>	two eggs	<i>gohiki neko</i>	five wildcats
<i>gohon kawa</i>	five rivers	<i>rokumai pureto</i>	six plates
<i>hachihon gen</i>	eight strings	<i>nihon hashi</i>	two chopsticks
<i>goko ringo</i>	five apples	<i>kyuhon kawa</i>	nine rivers
<i>kyuhiki inu</i>	nine dogs	<i>kyumai kitte</i>	nine postage stamps
<i>gomai pureto</i>	five plates	<i>hachihiki ari</i>	eight ants
<i>nihiki neko</i>	two wildcats	<i>kyuko tama</i>	nine balls
<i>rokumai enberopu</i>	six envelopes	<i>rokuko tama</i>	six balls
<b>Assignment 2:</b> Given your current knowledge and that <i>tiger</i> translates to <i>tora</i> in Japanese, which of the following would be valid and why?			
nihiki tora			
<b>Assignment 3:</b> Which of the following are correct/valid Japanese phrases? Provide the English translations for the correct ones. If invalid, write INVALID.			
<i>Japanese Phrase</i>	<i>English translation</i>	<i>Japanese Phrase</i>	<i>English translation</i>
<i>hachimai hashi</i>	INVALID	<i>niko ringo</i>	two apples
<i>rokuhon yajirushi</i>	six arrows	<i>hachiko hashi</i>	INVALID
<i>gohiki zo</i>	INVALID	<i>goto neko</i>	INVALID

- The order of the words is <Number word> <Noun>
- The number word is a compound which breaks up into <Number> + <Counter> where the counter marks agreement with the class of the noun
- There are 5 counter words:
  - *ko* for small and/or round things
  - *mai* for flat things
  - *hon* for long and/or thin things

- *hiki* for animals (based on Assignment 1)
- Refined knowledge : (based on following Assignments)
  - *hiki* for small animals
  - *to* for large animals

## Problem #2: Ethiopian Months

<b>Assignment 1:</b> Match the names of months written in the Fidel script with their transcriptions.			
<i>Fidel Script</i>	<i>Transcription</i>	<i>Fidel Script</i>	<i>Transcription</i>
መስከረም	<i>Mäskäräm</i>	ሚያዝያ	<i>Miyazya</i>
ጥቅምት	<i>Təqəmt</i>	ግንቦት	<i>Gənbət</i>
ሐዳር	<i>Hədar</i>	ሰኔ	<i>Säne</i>
ታሕሣሥ	<i>Tahsäś</i>	ሐምሌ	<i>Hamle</i>
ጥር	<i>Tərr</i>	ነሐሴ	<i>Nähase</i>
የካቲት	<i>Yäkatit</i>	ጳጉሜ	<i>Paḡume</i>
መጋቢት	<i>Mägabit</i>		
<b>Assignment 2:</b> Transcribe the names of the days using the same transcription scheme			
Day	Transcription	Day	Transcription
Tuesday	<i>maksañño</i>	Friday	<i>ärb</i>
Wednesday	<i>räbu</i>	Saturday	<i>qədame</i>
Thursday	<i>hamus</i>		
<b>Assignment 3:</b> Write down in Fidel script the Amharic word for “Ethiopia”			
ኢትዮጵያ			

- The script is written from left to right
- The script is an abugida, a writing system in which syllables are formed using root characters for consonants and diacritics to mark vowels.

Here is a two dimensional arrangement of Fidel glyphs. The consonants in white, light gray and dark gray boxes indicate the ones that have been inferred through (a) alignment of the month names (and the names of the two days provided in the Assignment 2), (b) the simple rule that <consonant>ə represents the lone consonants, and (c) the pattern of diacritic marks, respectively.

Consonants	VOWELS							
	ä	ə	a	i	o	e	u	Θ [no diacritic]
m	መ	ም	ማ	ሚ		ሚ	ሙ	ም
s	ሰ	ስ	ሳ			ሴ		ስ
k	ከ	ክ	ካ					ክ
r	ረ	ር						ር
ፒ		ፑ						ፑ
q		ቅ						ቅ
t		ተ	ታ	ቲ				ተ
ś		ሥ	ሣ					ሥ
γ	የ		ያ		ዮ			
g		ግ	ጋ				ጊ	ግ
b		ብ		ቢ	ቦ		ቡ	ብ
z		ዝ						ዝ
n	ነ	ን				ኔ		ን
h, H, ḥ		ከ	ከ				ከ	ከ
ḥ		ከ	ከ					
d		ድ	ዳ					ድ
l						ሌ		
n~					ኸ			
NULL	አ	አ		ኢ				

- Free vowels are written by marking the vowel diacritic on the NULL consonant, as shown in the last row of the table
- Explanations for Assignment 2:
  - ማክሰኞ maksañño (makəsañño is unlikely because we observe that ə is deleted in VCəCV context; Although maksañño is also possible, the chances of Monday rhyming with Tuesday is much higher.)
  - ከሙስ hamus (hamusə is unlikely because we observe that ə is deleted word finally)
  - ኦርብ ärb (ärəb is possible but less likely because of ፒፀፈጠጥ)

### Problem #3: Kurmali

<b>Assignment 1:</b> Translate the following sentences into Kurmali.
1. I saw Radha. <i>Moi Radha ke dekhe</i>
2. I gave Salman rice. <i>Moi Salman ke bat dei</i>
3. Girls ate the rice <i>Choanira bat khaenu</i>
4. A girl gave Radha dolls. <i>Choani Radha ke putulira deuoe</i>
5. Radha saw the boys. <i>Radha choara ke dekhui</i>
6. We saw a dog. <i>Moira kokur dekhyonu</i>

#### Assignment 2:

The word order in Kurmali is <Subject> (<Indirect object>) (<Accusative case>) <Direct object> (<Accusative case>) <Verb>, where elements within parentheses may or may not occur, and the accusative case /ke/ occurs only with animate objects.

The verb is the form <Verb root><Subject marking><Object marking>.

Subject Marking:

Gender	Number	Person		
		1	2	3
Masculine	Singular		lia	ao
	Plural	yon	lin	aon
Feminine	Singular		leo	uo
	Plural	yon (*)	lin (*)	en
Neuter	Singular			
	Plural			yon

Object Marking:

- Object marking is marked for the direct object in the transitive verb and for the indirect object in the ditransitive verb.
- Masculine: i
- Feminine: e
- Neuter (animal & inanimate objects): u

### List of Nouns

choa/choani	boy/girl
ghar	house
moi	I
toi	you (singular)
kokur	dog
bat	rice
putuli	doll

### List of Verbs

kha	To eat
de	To give
dekh	To see
kin	To buy

### Problem #4: Imya Imyevna Rossiyov

**Assignment 1:** Fill in the full, three-part names of the family members in the family tree. If there are multiple possible solutions, write only one.

<i>Family Member</i>	<i>Full Name</i>
A	Vladimir Vladimirovich Ivanov
B	Ivan Vladimirovich Ivanov
C	Yelena Vladimirovna Ivanova
D	Olga Vladimirovna Ivanova
E	Viktor Alexandrovich Smirnov
F	Nataliya Alexandrovna Smirnova
G	Andriy Vladimirovich Ivanov
H	Boris Andriyevich Ivanov
I	Olga Andriyevna Ivanova
J	Anna Vladimirovna Ivanova
K	Leonid Sergeyeovich Popov
L	Valeriya Sergeyeвна Popova

These names can also appear in the order <A, B, C, J, K, L, G, H, I, D, E, F>, <G, H, I, D, E, F, A, B, C, J, K, L>, or <G, H, I, J, K, L, A, B, C, D, E, F>.

### Assignment 2:

- Each full name is of the form <First name> <Patronymic> <Last name>.
- The patronymic is formed by taking the father's name, and adding a suffix:
  - -ovich for males
  - -ovna for females
  - -evich/-evna for males and females respectively if the father's name ends in a 'y'
- The last name has a root form, which appears as it is in a male member's name. The last name of a female member is formed by taking her father's last name and appending 'a'.
- Parents may call their children with a diminutive name, which is formed by replacing the final -a with -ochka (or -echka if a 'y' occurs before the -a) in the short name.

**Assignment 3:** What is the grammatical error in the title of the problem?

The title of the problem has the middle name Imyevna, indicating that the the name is of a woman, but if that is the case the last name would have to have the -a suffix, which is not the case.

If the name is of a man, then the middle name would have to be Imyevich.

### Problem #5: Washo

**Assignment 1:** Translate the following sentences into English. If there are multiple translations possible, give all of them.

a. *da'mo'mo' basa' umsilige basa'i*

The woman wrote the book that she gave to you.

b. *telihwu basa' disilisge digyi*

I saw the book that the man gave to me.

c. *da'mo'mo' basa' disilisge dipigelyayi*

I returned to the woman the book she gave to me.

AND

The woman returned to me the book that I gave to her.

**Assignment 2:** Translate the following sentences into Washo.

a. The man gave to me the book that I returned to him.

*telihwu basa' dipigelyayisge disili*

b. You saw the book that you gave the woman.

*da'mo'mo' basa' umsilige umgyi*

### Assignment 3:

1. Verb roots: *basa'* (write), *sil* (give), *gy* (see), *pigelyay* (return)

**Note:** *basa'i, sili, gyi, pigelyayi* are also valid answers.  
Nouns: *teliwhu* (man), *da'mo'mo'* (woman), *basa'* (book)

2. Suffixes:

-i : past tense

-ge : found on verbs of relative (or any other name for it) clauses

-s- : found on verbs of relative clauses before *-ge*, if the subject of the relative clause is different from the subject of the matrix/main clause

Prefixes:

*di-* : first person argument (subject and indirect object)

*um-*: second person argument (subject and indirect object)

3. **Note:** We will be using the following terminology: S for subjects, O for objects and R for recipients, rel for relative clauses and mat for matrix clauses. Since the object of matrix and relative clauses is same in all the sentences ("book"), I will simply refer to it as O. Thus, we have 5 arguments, S-rel, S-mat, O, R-rel and R-mat, and 2 verbs, V-rel and V-mat, in each sentence.

The underlying order is: S-rel R-rel O V-rel S/R-mat\* V-mat

\***Note:** Any relative ordering between S-mat and R-mat is acceptable.

If R-mat or S-mat is an argument in the relative clause (either R-rel or S-rel), then it is omitted i.e. the same argument is not repeated twice.

Moreover, if any of these arguments are 1st person or 2nd person, then that argument is omitted, and it is only marked as a prefix on the respective verb.

Of course, if the verb has no recipient (write/see), then the recipient argument is omitted.