

# First Asia Pacific Linguistics Olympiad

May 5, 2019

## Problems

- Listen carefully to the invigilators and follow their instructions.
- The contest lasts five hours. The problem set consists of seven pages and it contains five problems. You may solve the problems in any order.
- You are not allowed to use any electronic device, written or printed material or other external sources of information during the contest.
- If you have a question about any of the problems, put up your hand and ask an invigilator. The invigilator will consult with the jury before answering.
- Rules for writing out solutions
  - Do not copy the statements of the problems.
  - Write down your solution to each problem on a separate sheet or sheets.
  - Use only the front side of the answer sheet.
  - On each sheet indicate your name, the number of the problem, and the page sequence of that sheet within the problem, e.g.:

Name	...
Problem #	5
Page #	1 / 3

Name	...
Problem #	5
Page #	2 / 3

Name	...
Problem #	5
Page #	3 / 3

(meaning first, second, and third sheet of three for the fifth problem.)

Otherwise your work may be mislaid or misattributed.

- Your answers must be well-supported by argument. Even a perfectly correct answer will be given a low score unless accompanied by an explanation.

**Problem 1 (20 points).** The following are the fourth powers of natural numbers in ascending order:

1, 16, 81, 256, 625, 1296, 2401, 4096, 6561, 10000, . . .

The first ten entries of this sequence are spelt out in Ik, in arbitrary order:

- a. **ɲamirá lebetse ńda tomínékwa túde ńda jírını túde ńda kíđí kɔn**
- b. **álifika ts'agúsé ńda tomínékwa túde ńda kíđí ts'agúsé ńda jírını túde ńda kíđí kɔn**
- c. **álifika túde ńda kíđí kɔn ńda ɲamirá túde ńda tomínékwa túde ńda kíđí kɔn ńda nébɛɛ kɔn**
- d. **álifika tomín**
- e. **álifika kɔn ńda ɲamirá lebetse ńda tomínékwa túde ńda kíđí ts'agúsé ńda jírını túde ńda kíđí kɔn**
- f. **tomínékwa túde ńda kíđí ađe ńda nébɛɛ kɔn**
- g. **tomíní ńda jírını túde ńda kíđí kɔn**
- h. **kɔn**
- i. **álifika lebetse ńda ɲamirá ts'agúsé ńda kɔn**
- j. **ɲamirá túde ńda kíđí kɔn ńda tomínékwa lebetse ńda jírını túd**

(a) Determine the correct correspondence.

(b) Write in numerals:

- k. **álifika tomíní ńda jírını lebetse**
- l. **tomínékwa túde ńda kíđí kɔn**
- m. **tomínékwa túde ńda nébɛɛ kɔn**
- n. **álifika ɲamirá kɔn**

(c) Write out in Ik: 3108.

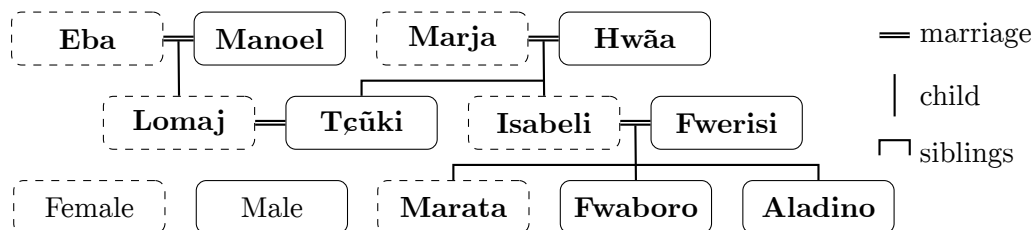
(d) Write out the eleventh entry of the sequence in Ik.

△ Ik belongs to the Nilo-Saharan family. It is spoken by approx. 7,500 people in Uganda.

**ɓ**, **ɗ**, **j**, **ɲ** and **ts'** are consonants. **ɔ**, **ɛ** and **ɪ** are pronounced like **o**, **e** and **i**, respectively, but with the slightly lowered tongue. The mark ´ denotes a high tone.

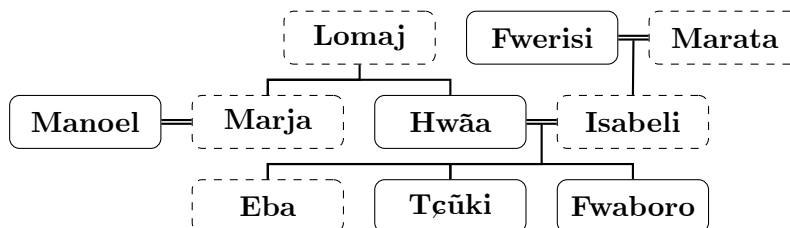
The fourth power of a number  $n$  is the result of multiplying four instances of  $n$  together.  
( $n^4 = n \times n \times n \times n$ ) —Minkyu Kim

**Problem 2 (20 points).** Here is a family tree of an Urarina family. Given below are some sentences in Urarina and their English translations.



Speaker	Listener	Urarina	English translation
Aladino	Fwaboro	<b>Kati takai</b>	<i>You(sg) met the dark capuchin monkey.</i>
Eba	Marja	<b>Ta kabesiine</b>	<i>Hadn't you(sg) finished telling (it) to me?</i>
Fwaboro	Isabeli	<b>Katiatçena</b>	<i>Did he/she give (it) to me?</i>
Fwerisi	Fwaboro	<b>Ibahahia eene</b>	<i>The woman was asking you(sg).</i>
Fwerisi	Hwāa	<b>Arisiitçe</b>	<i>You(sg) had finished looking for him/her.</i>
Isabeli	Tçūki	<b>Bahaitçe</b>	<i>You(sg) asked him/her.</i>
Lomaj	Fwerisi	<b>Katakasiatçe</b>	<i>He/She had finished meeting me.</i>
Lomaj	Eba	<b>Kuretiahei</b>	<i>You(sg) were buying it.</i>
Manoel	Hwāa	<b>Ta esenetaane</b>	<i>Didn't he/she believe him/her?</i>
Manoel	Tçūki	<b>Dzesenetaatçe</b>	<i>He/She believed you(sg).</i>
Manoel	Lomaj	<b>Kabesiatçe</b>	<i>He/She had finished telling (it) to me.</i>
Marata	Lomaj	<b>Dzariahia katça</b>	<i>The man was looking for you(sg).</i>
Marata	Fwerisi	<b>Kesenetaitçe</b>	<i>You(sg) believed me.</i>
Marja	Isabeli	<b>Kuresesia etoe</b>	<i>The owl monkey had finished buying it.</i>
Tçūki	Hwāa	<b>Itakahia</b>	<i>He/She was meeting you(sg).</i>

A new family tree is provided. Fill in the blanks. Provide all possible answers for blanks 4–6.



Speaker	Listener	Urarina	English translation
Eba	Fwerisi	<b>Kabiatçe kati</b>	1 _____
Hwāa	Eba	<b>Eene takahiatçena etoe</b>	2 _____
Lomaj	Marata	<b>Ta katça arisiane</b>	3 _____
Marja	4 _____	<b>Ta itiatçene eene</b>	<i>Didn't the woman give (it) to you(sg)?</i>
Eba	5 _____	<b>Etoe bahaa katça</b>	<i>The man asked the owl monkey.</i>
Hwāa	6 _____	<b>Kabesiana</b>	<i>Had he/she finished telling (it) to me?</i>
Fwaboro	Isabeli	7 _____	<i>Was he/she buying the owl monkey?</i>
Hwāa	Marata	8 _____	<i>The dark capuchin monkey believed you(sg).</i>
Fwerisi	Hwāa	9 _____	<i>He/She was looking for the man.</i>
Fwaboro	Fwerisi	10 _____	<i>Did he/she tell (it) to you(sg)?</i>

△ Urarina is a language isolate. It is spoken by approx. 3,000 people in north-western Peru. Punctuation is omitted in the Urarina data. **tɕ** and **dʒ** are consonants.

Urarina people practice bride service and uxorilocality, i.e. the couple would live near the wife's family after marriage.

All family members in this problem are above 15 of age and are regarded as adults according to traditions. —Yung-Jui Yao

**Problem 3 (20 points).** Here are some sentences in Mee and their possible English translations:

- |                          |                                          |
|--------------------------|------------------------------------------|
| 1. <i>yanameege</i>      | <i>You(sg) brought me for him today.</i> |
| 2. <i>nakadoogi</i>      | <i>He saw you(sg) for me today.</i>      |
| 3. <i>teenedoogi</i>     | <i>He did not see us today.</i>          |
| 4. <i>niyanedoope</i>    | <i>You(sg) saw us for us.</i>            |
| 5. <i>ebukaipa</i>       | <i>I saved them.</i>                     |
| 6. <i>meege</i>          | <i>You(sg) came today.</i>               |
| 7. <i>kaaaakadoope</i>   | <i>We two met for you(sg).</i>           |
| 8. <i>naakawageegai</i>  | <i>They fought for me today.</i>         |
| 9. <i>aanabukaipaa</i>   | <i>You two saved me.</i>                 |
| 10. <i>teekameege</i>    | <i>We did not bring you(sg) today.</i>   |
| 11. <i>teedokaibe</i>    | <i>You(sg) did not carry him.</i>        |
| 12. <i>teekiyaameepe</i> | <i>We two did not come for you(pl).</i>  |

(a) Translate into English:

13. *aameepai*
14. *teekedoogi*
15. *naaameegaa*
16. *teenadokaipaa*

(b) Translate into Mee:

17. *You(sg) saw them today.*
18. *I did not come for him today.*
19. *You two saw him for us.*
20. *They saved each other.*

(c) These sentences can be interpreted in different ways. Give all possible translations.

21. *kameepi*
22. *edoope*

△ Mee (Ekari) belongs to the Trans–New Guinean family. It is spoken by approx. 100,000 people in Papua province, Indonesia. —Tsuyoshi Kobayashi

**Problem 4 (20 points).** Here are some verb forms in Hebrew and their English translations in arbitrary order:

*katava, higdil, hitxatavt, hitbatel, gadalti, zakanta, higniva, hikhalta,  
kitavti, bitalt, ahava, shimarti, ginev, gadala*

- |                                            |                                                 |
|--------------------------------------------|-------------------------------------------------|
| 1. <i>I grew up.</i>                       | 8. <i>You(fem) corresponded (with someone).</i> |
| 2. <i>She loved (someone).</i>             | 9. <i>She wrote (something).</i>                |
| 3. <i>She grew up.</i>                     | 10. <i>He grew (something).</i>                 |
| 4. <i>I rewrote (something).</i>           | 11. <i>You(masc) fed (someone).</i>             |
| 5. <i>You(masc) grew old.</i>              | 12. <i>She smuggled (something).</i>            |
| 6. <i>He stole (something) repeatedly.</i> | 13. <i>He shamed himself.</i>                   |
| 7. <i>You(fem) humiliated (someone).</i>   | 14. <i>I guarded (something) firmly.</i>        |

(a) Determine the correct correspondence.

(b) Translate into English:

*zakan, katav, hitshamara, ganavt*

(c) Translate into Hebrew:

15. *I wrote (something).*
16. *You(masc) shamed (someone).*
17. *She loved (someone) back.*

△ Hebrew belongs to the Semitic branch of the Afro-Asiatic family. It is spoken by approx. 9,000,000 people all over the world. Hebrew is the official language of Israel.

$\text{ə} \approx \text{o}$  in *worm*. **kh**, **sh** and **q** are consonants.

—Aalok Sathe

**Problem 5 (20 points).** Here are some Old Turkic words written in the Old Turkic script, their Roman transcriptions and their English translations:

𐰀𐰆𐰆	adaq	<i>foot</i>
𐰇𐰇𐰆𐰆	altun	<i>gold</i>
𐰇𐰆𐰆	amtī	<i>now</i>
𐰇𐰆𐰆𐰆𐰆	ädgüti	<i>well (adv.)</i>
𐰆𐰆𐰆𐰆	bängü	<i>eternal</i>
𐰇𐰆𐰆𐰆𐰆𐰆	bašliŷy	<i>the head-bearer, the arrogant one</i>
𐰆𐰆𐰆𐰆𐰆	bilmäz	<i>he/she does not know</i>
𐰇𐰆𐰆𐰆	bodun	<i>populace</i>
𐰆𐰆𐰆𐰆	buluŷ	<i>corner</i>
𐰆𐰆𐰆𐰆	ičrä	<i>inside</i>
𐰇𐰆𐰆𐰆	ičŷīnu	<i>after losing</i>
𐰆𐰆𐰆𐰆𐰆𐰆	kälürtüm	<i>I brought</i>
𐰆𐰆𐰆𐰆𐰆	költä	<i>at the lake</i>
𐰇𐰆𐰆𐰆	oŷlan	<i>boy</i>
𐰇𐰆𐰆𐰆𐰆𐰆	oŷliti	<i>their sons</i>
𐰇𐰆𐰆𐰆	ölti	<i>he/she killed</i>
𐰆𐰆𐰆𐰆	qara	<i>black</i>
𐰆𐰆𐰆𐰆	qiš	<i>winter</i>
𐰆𐰆𐰆	sub	<i>water</i>
𐰆𐰆𐰆𐰆𐰆	tirkiš	<i>to go on in a sequence</i>
𐰇𐰆𐰆𐰆𐰆	tölis	<i>Tölis (personal name)</i>
𐰇𐰆𐰆𐰆	uluŷ	<i>great</i>
𐰆𐰆𐰆𐰆𐰆	ümüzsän	<i>you will not think</i>
𐰇𐰆𐰆	yazi	<i>plains, field</i>
𐰇𐰆𐰆𐰆𐰆	yügürti	<i>it flowed</i>

(a) Write out in the Old Turkic script:

1. \_\_\_\_\_ **ärän** *men*
2. \_\_\_\_\_ **bīčdī** *he/she cut*
3. \_\_\_\_\_ **könül** *heart*
4. \_\_\_\_\_ **otuz** *thirty*
5. \_\_\_\_\_ **qayan** *khagan*
6. \_\_\_\_\_ **tizligig** *the knee-bearer, the mighty one*

(b) Provide all possible Roman transcriptions of the following word:

𐰇𐰺𐰽𐰸

(c) Describe the spelling rules of the Old Turkic script.

△ Old Turkic is the earliest attested member of the Turkic language family, found in Göktürk and Uyghur inscriptions dating from the 7th to the 13th century. Old Turkic is attested in various writing systems including the Old Turkic script, which was in use from the 8th to the 10th century.

**ä** ≈ *e* in *pet*. **ī** is pronounced somewhat like *u* in *put*, but without rounding the lips. **ö** and **ü** are pronounced as those of German (or *eu* and *u* of French), which correspond to **ä** and **i** with rounded lips, respectively. **q** and **ɣ** are pronounced like **k** and **g**, respectively, but further back in the mouth. **č**, **š** and **ŋ** are consonants.

A khagan is an imperial ruler of some Turkic and Mongolic tribes. —*Jaeyeong Yang*

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Good luck!