

Open Round of the Ninth International Linguistics Olympiad, China

April 25, 2020

Problems

Problem 1 (20 points). Here are some words and word combinations in Etruscan written in the Old Italic script and in the Latin script and their English translations:

JAṂATḂ·ITA	<u>1</u>	<i>the mother of the sanctuary</i>
A8XṂYJY1·4AM17	<u>2</u>	<i>thirteen stars</i>
IJ3Ḃ	<u>3</u>	<i>twice</i>
J18A·ṂY4ḂAI	<u>4</u>	<i>twenty years</i>
JAITA·A8XṂYJY1	<u>5</u>	<u>6</u>
JA1ṂT·J1MY	<u>7</u>	<u>8</u>
<u>9</u>	ciz	<i>three times</i>
<u>10</u>	eslem zathrum avil	<i>eighteen years</i>
<u>11</u>	tmia atial	<i>the temple of the mother</i>
<u>12</u>	ushil zilacal	<i>the sun of the chief</i>
<u>13</u>	ciem zathrum pulumchva	<u>14</u>
<u>15</u>	etan zilacal	<u>16</u>
<u>17</u>	<u>18</u>	<i>ten years</i>
<u>19</u>	<u>20</u>	<i>the sanctuary of the temple</i>

Fill in the gaps among them.

⚠ Etruscan is a language isolate. It was spoken in Etruria (present-day central Italy) around 2,000 years ago.

1 ≠ 1. **ch**, **sh**, and **th** are consonants.

—Yuyang Liu

Problem 2 (20 points). Here are some sentences in Ancient Greek and their English translations:

Hē gynē ton nautēn ēnenke.

The woman brought the sailor.

Hē tou sophou gnōsis tēn tēs elpidos basileian heilkyse.

The knowledge of the sage hurt the kingdom of the hope.

Hē tou teknu mētēr ton tēs basileias basilea etarakse.

The mother of the child disturbed the king of the kingdom.

Ho anēr tēn tou basileōs mētera ēnenke.

The man brought the mother of the king.

Ho emporos to tēs elpidos noēma heure.

The merchant found the meaning of the hope.

Ho nautēs to tōn gynaikōn dōron epoiēse.

The sailor made the gift of the women.

Ho tēs Hellados stratēgos tēn tou Sōkratous polin elabe.

The general of Greece plundered the city-state of Socrates.

Ho tēs poleōs basileus to tēs mēteros dōron elabe.

The king of the city-state plundered the gift of the mother.

Ho tōn Athēnōn kritēs ton Sōkratēn apekteine.

The judge of Athens killed Socrates.

To tēs gynaikos teknon to tēs gnōseōs noēma emathe.

The child of the woman knew the meaning of the knowledge.

(a) Translate into English:

1. **Hē tou nautou gnōsis to tou stratēgou teknon heilkyse.**
2. **Ho sophos tēn tou emporou elpida apekteine.**
3. **Ho Sōkratēs ton tou andros kritēn etarakse.**

(b) Translate into Ancient Greek:

4. *Socrates found the meaning.*
5. *The judge made the gift of the man of the kingdom.*
6. *The sage of Athens knew the city-state of Greece.*

⚠ Ancient Greek belongs to the Graeco-Phrygian branch of the Indo-European family. It was spoken in ancient Greece around 2,300 years ago.

ph and **th** are consonants. **ē**, **ō**, and **y** are vowels.

Athens was a city-state in ancient Greece. Socrates was an ancient Greek philosopher.

—Zixiong Liu

Problem 3 (20 points). Here are some words in Ikoma and their English translations:

aramobisa	<i>he is hiding him</i>	neekabasooka	<i>I start to obey them</i>
batararoma	<i>they are not biting</i>	noonsungiri	<i>you (sg.) hung me</i>
mbaagokenga	<i>they obstruct</i>	ntookonjina	<i>we doubt</i>
mbaakonendiri	<i>they protected you (sg.)</i>	orabamera	<i>you (sg.) are swallowing them</i>
moogatotuka	<i>you (pl.) start to dig us</i>		

(a) Translate into English:

1. **barambisa**
2. **naagosungga**
3. **neragokenga**
4. **totaakamoroma**

(b) Translate into Ikoma:

5. *he obeyed you (sg.)*
6. *I am not protecting*
7. *they start to bite you (sg.)*
8. *they swallow him*
9. *you (pl.) do not start to dig me*
10. *you (sg.) hide us*

⚠ Ikoma belongs to the Bantu group of the Atlantic-Congo family. It is spoken by approx. 19,000 people in Tanzania.

ŋ = *ng* in *hang*. The doubling of a vowel denotes length.

—Ziche Chen

Problem 4 (20 points). Here are some arithmetic equalities in Karbi:

1. **nerkep** × **sirkep** = **throksikepra hini**
2. **krekehom** × **throk** = **throksikepra nerkep**
3. **ingkoira sirkep** + **thomkepra isi** = **throkkep**
4. **phokepra throk** + **thomkepra pho** = **throksirkepra isi**
5. **kep** × **phli** − **thomkepra kethom** = **throknerkepra phli** ÷ **krehini** = **throksi**

All numbers in these equalities are less than 100.

(a) Write these equalities in numerals.

(b) Write out in Karbi: 20; 97.

⚠ Karbi belongs to the Kuki-Chin-Naga branch of the Sino-Tibetan family. It is spoken by approx. 530,000 people in India and Bangladesh.

ng, **ph**, and **th** are consonants.

—Jin Xu

Problem 5 (20 points). Here are some words in Yiddish and their English translations:

לאַנד *land*
שטערן *star*

(a) Determine the correct correspondences:

- | | |
|-------------------|----------------------------|
| 1. אַוונטשטערן | A. <i>astronaut</i> |
| 2. גויִשער | B. <i>evening star</i> |
| 3. קאַפּ גויִשער | C. <i>father</i> |
| 4. גריכנלאַנד | D. <i>foolish person</i> |
| 5. קאַפּ ייִדישער | E. <i>Greece</i> |
| 6. ייִדנלאַנד | F. <i>Hebrew language</i> |
| 7. קודש לשון | G. <i>holy</i> |
| 8. לשון מאַמע | H. <i>Land of Jews</i> |
| 9. מאַרגן | I. <i>morning star</i> |
| 10. מאַרגנשטערן | J. <i>native country</i> |
| 11. פאַטער | K. <i>non-Jewish</i> |
| 12. פאַטערלאַנד | L. <i>smart person</i> |
| 13. קודש | M. <i>tomorrow</i> |
| 14. שטערנפֿליער | N. <i>Yiddish language</i> |

(b) Translate into English:

15. גריכן
16. לשון

(c) Translate into Yiddish:

17. *head*
18. *morning*
19. *mother*
20. *pilot*

The answer to one of (17–20) should coincide with one of (1–14).

⚠ Yiddish belongs to the Germanic branch of the Indo-European family. It is spoken by approx. 370,000 people of the Jewish ethnic groups in Israel, the USA, Germany, etc.

Land of Jews is a poetic name for Israel. The textual source for the Christian Old Testament is almost exclusively in Classical Hebrew.
—Yuyang Liu, Lin Ye

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Good luck!

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Solutions

Problem 1.

1. **ati etanal**
2. **cishar pulumchva**
3. **eslz**
4. **zathrum avil**
5. **pulumchva atial**
6. *the stars of the mother*
7. **ushil tmial**
8. *the sun of the temple*
9. II7
10. J18A·~Y4⊗AI·~3J33
11. JAITA·AI~T
12. JA7AJII·JIMY
13. A8X~YJY1·~Y4⊗AI·~3I7
14. *seventeen stars*
15. JA7AJII·YAT3
16. *the sanctuary of the chief*
17. J18A·4AM
18. **shar avil**
19. JAI~T·YAT3
20. **etan tmial**

Problem 2.

- (a)
 1. *The knowledge of the sailor hurt the child of the general.*
 2. *The sage killed the hope of the merchant.*
 3. *Socrates disturbed the judge of the man.*
- (b)
 4. **Ho Sōkratēs to noēma heure.**
 5. **Ho kritēs to tou tēs basileias andros dōron epoiēse.**
 6. **Ho tōn Athēnōn sophos tēn tēs Hellados polin emathe.**

Problem 3.

- (a) 1. *they are hiding me*
2. *he hangs*
3. *I am obstructing you (sg.)*
4. *we do not start to bite him*
- (b) 5. **naagosookiri**
6. **netaranenda**
7. **baagakoroma**
8. **mbaakomomera**
9. **motaakantuka**
10. **noogotobisa**

Problem 4.

- (a) 1. $8 \times 9 = 72$
2. $13 \times 6 = 78$
3. $29 + 31 = 60$
4. $56 + 35 = 91$
5. $10 \times 4 - 33 = 84 \div 12 = 7$
- (b) 20 = **ingkoi**
97 = **throksirkepra throksi**

Problem 5.

- (a)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
B	K	D	E	L	H	F	N	M	I	C	J	G	A
- (b) 15. *Greeks*
16. *language*
- (c) 17. קאָפּ
18. מאָרגן
19. מאַמע
20. פֿליער