

# 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·JIMY	<u>7</u>	<u>8</u>
<u>9</u>	<b>ciz</b>	<i>three times</i>
<u>10</u>	<b>eslem zathrum avil</b>	<i>eighteen years</i>
<u>11</u>	<b>tmia atial</b>	<i>the temple of the mother</i>
<u>12</u>	<b>ushil zilacal</b>	<i>the sun of the chief</i>
<u>13</u>	<b>ciem zathrum pulumchva</b>	<u>14</u>
<u>15</u>	<b>etan zilacal</b>	<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:

<b>aramobisa</b>	<i>he is hiding him</i>	<b>neekabasooka</b>	<i>I start to obey them</i>
<b>batararoma</b>	<i>they are not biting</i>	<b>noonsungiri</b>	<i>you (sg.) hung me</i>
<b>mbaagokenga</b>	<i>they obstruct</i>	<b>ntookonina</b>	<i>we doubt</i>
<b>mbaakonendiri</b>	<i>they protected you (sg.)</i>	<b>orabamera</b>	<i>you (sg.) are swallowing them</i>
<b>moogatotuka</b>	<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. II 7
10. J I 8 A · ʸ Y 4 ⊗ A I · ʸ ɛ J ʒ ɛ
11. J A I T A · A I ʸ T
12. J A ʒ A J I I · J I M Y
13. A 8 X ʸ Y J Y ʒ · ʸ Y 4 ⊗ A I · ʸ ɛ I 7
14. *seventeen stars*
15. J A ʒ A J I I · ʸ A T ɛ
16. *the sanctuary of the chief*
17. J I 8 A · 4 A M
18. **shar avil**
19. J A I ʸ T · ʸ A T ɛ
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. קאַפּ
  18. מאָרגן
  19. מאַמע
  20. פֿליער