en

# International Linguistics Olympiad

Last revised: June 28th, 2026

Sample problems

- If the puzzle on Ancient Greek below "looks Greek to you", don't panic – we guarantee that *no previous knowledge* of Greek is necessary to solve it.
- All of the information you need to solve the puzzles below is in the puzzles themselves. All you need to add is some analytical reasoning and tricky thinking.
- Once you've mastered these puzzles from national-level competition, why not try your skills against our past international-level problems? They're difficult enough to puzzle professional linguists... but still solvable by secondary-school students.

## List of problems


**Easy**

1. Georgian Countries
2. Ancient Greek
3. Aragonese
4. Japanese Braille
5. Lalana Chinantec
6. Molistic
7. Persian

**Intermediate**

8. Kazakh
9. Taikyoku Shōgi
10. Tupí and Guaraní
11. Inuktitut Numbers
12. Basque Numbers
13. Basque Kinship

**Hard**

14. Icelandic Kinship
15. Manam
16. Guaraní Verbs
17. Aymara
18. Toki Pona

**Problem 1.** There are names of some countries in South America, written in the Georgian language, together with their translations to English:

| | |
|---|---|
| ბრაზილია | **Brazil** |
| პერუ | **Peru** |
| ურუგვაი | **Uruguay** |

არგენტინა
კოლუმბია

**(a)** What are the names, in English, of the two untranslated countries?

*—Bruno L'Astorina (Brazilian Linguistics Olympiad 2016)*

**Problem 2.** Consider these phrases in Ancient Greek (in a Roman-based transcription) and their unordered English translations:

| | | | |
|---|---|---|---|
| 1. | **ho tōn hyiōn dulos** | A. | *the donkey of the master* |
| 2. | **hoi tōn dulōn cyrioi** | B. | *the brothers of the merchant* |
| 3. | **hoi tu emporu adelphoi** | C. | *the merchants of the donkeys* |
| 4. | **hoi tōn onōn emporoi** | D. | *the sons of the masters* |
| 5. | **ho tu cyriu onos** | E. | *the slave of the sons* |
| 6. | **ho tu oicu cyrios** | F. | *the masters of the slaves* |
| 7. | **ho tōn adelphōn oicos** | G. | *the house of the brothers* |
| 8. | **hoi tōn cyriōn hyioi** | H. | *the master of the house* |

**(a)** Match the Ancient Greek phrase (1-8) with the corresponding English translation (A-H).

**(b)** Translate into Ancient Greek:

9. *the houses of the merchants*
10. *the donkeys of the slave*

⚠ The letter **ō** stands for a long *o*.
—*Todor Tchervenkov (North American Computational Linguistics Olympiad 2007)*

**Problem 3.** In the Iberian Peninsula, there are several languages, apart from Portuguese and Spanish (Castillan), that share the same romanic origin, such as Catalan, Galician, Mirandese, Asturian, Leonese, and Aragonese. The list below brings a list of words in Aragonese, their plural forms, and their translations to English:

| | | |
|---|---|---|
| **bal** | **bals** | *valley* |
| **banquet** | **banquetz** | *stool* |
| **clot** | **clotz** | *hole* |
| **cantal** | **cantals** | *stone* |
| **concordau** | ___(1)___ | *awake* |
| **chicolat** | ___(2)___ | *chocolate* |
| **chunta** | ___(3)___ | *union* |
| **deixau** | **deixaus** | *unhanded* |
| **eclix** | ___(4)___ | *eclipse* |
| **ferfet** | ___(5)___ | *cicada* |
| **personache** | **personaches** | *character* |
| **peix** | **peixes** | *fish* |

**(a)** Fill in the blanks (1-5).

*—Bruno L'Astorina (Brazilian Linguistics Olympiad 2016)*

**Problem 4.** ***Braille*** is a tactile writing system, based on a series of raised dots, that is widely used by the blind. It was invented in 1821 by Louis Braille to write French, but has since been adapted to many other languages. English, which uses the Roman alphabet just as French does, required very little adaptation, but languages that do not use the Roman alphabet, such as Japanese, Korean, or Chinese, are often organized in a very different manner!

To the right is a Japanese word written in the *tenji* ("dot characters") writing system. The large dots represent the raised bumps; the tiny dots represent empty positions.

*karaoke* 

**(a)** The following tenji words represent **atari**, **haiku**, **katana**, **kimono**, **koi**, and **sake**:

a. 

b. 

c. 

d. 

e. 

f. 

Which is which? You don't need to know either Japanese or Braille to figure it out; you'll find that the system is highly logical.

**(b)** What are the following words?

g. 

h. 

**(c)** Write the following words in *tenji* characters:

i. *samurai* j. *miso*

*—Patrick Littell (North American Computational Linguistics Olympiad 2009)*

**Problem 5.** Lalana Chinantec[1] is a language spoken by approximately 10,000 people who live in the Oaxaca region of Mexico. In the following orthography a colon (**:**) marks a long vowel, and the **ʔ** symbol marks a glottal stop (like the sound in the middle of *uh-oh*).

| | |
|---|---|
| **kalakwa: kwɨ: li:ʔ** | *The beautiful corn grew.* |
| **mɨladʒö mo:h kya** | *My pineapples have turned out well.* |
| **li:ʔ kalane kwɨ: kwa: kya** | *My tall corn yellowed beautifully.* |
| **dʒö kalaro:h mo:h ne kya** | *My yellow pineapples ripened well.* |
| **kaladʒö kwɨ:** | *The corn turned out well.* |
| **mɨlakwa: kwɨ:** | *The corn has grown.* |

**(a)** What does the word **li:ʔ** mean?

**(b)** What does the word **ro:h** mean?

**(c)** Translate the following sentences into Lalana Chinantec:

1. *The good pineapples became beautiful.*
2. *My ripe corn has yellowed well.*

**(d)** Translate the following sentences into English:

3. **mɨlaro:h kwɨ: ne**
4. **li:ʔ kalakwa: kwɨ:**

*—Rachel Nordlinger (Australian Computational and Linguistics Olympiad 2008)*

[1]Data from Merrifield, W. *et al* (2003). *Laboratory Manual for Morphology and Syntax*, 7th edition. Dallas: SIL International.

**Problem 6.** Imagine that you have heard these sentences: Jane is molistic and slatty.

**Jennifer is cluvious and brastic.**
**Molly and Kyle are slatty but danty.**
**The teacher is danty and cloovy.**
**Mary is blitty but cloovy.**
**Jeremiah is not only sloshful but also weasy.**
**Even though frumsy, Jim is sloshful.**
**Strungy and struffy, Diane was a pleasure to watch.**
**Easy though weasy, John is strungy.**
**Carla is blitty but struffy.**
**The salespeople were cluvious and not slatty.**

**(a)** Then which of the following would you be likely to hear?

i. **Meredith is blitty and brastic.**
ii. **The singer was not only molistic but also cluvious.**
iii. **May found a dog that was danty but sloshful.**

**(b)** What quality or qualities would you be looking for in a person?

i. **blitty**
ii. **weasy**
iii. **sloshful**
iv. **frumsy**

*—Dragomir Radev (North American Computational Linguistics Olympiad 2007)*

**Problem 7.** Several Persian phrases are presented together with their translations:

| | |
|---|---|
| **gorbe zir-e raxtexāb** | *the cat under the bed* |
| **xåne pāin-e kuh** | *the house under the mountain* |
| **čahārpāye zir-e miz** | *the stool under the table* |
| **ğāyeğ zir-e pol** | *the boat under the bridge* |
| **amānat pāin-e dar** | *the package under the door* |
| **šahr zir-e āftāb** | *the city under the sun* |
| **nāme zir-e ketāb** | *the letter under the book* |
| **ketāb pāin-e komod** | *the book on the lowest shelf in the bookcase* |

**(a)** Translate into English:

1. **čahārpāye pāin-e miz**
2. **ketāb zir-e komod**

**(b)** Here are two English phrases and their Persian translations (with gaps):

3. *the stone under the water* **sang** _____ **āb**
4. *the box under the tree* **ja'abe** _____ **deraxt**

Fill the gaps. If you think that some of them can be filled in more than one way, give all possible answers.

**(c)** Explain your solution.

⚠ **ā**, **å**, **š**, **č**, **ğ**, **'** represent specific Persian sounds.

—*Yulia Mazurova (Moscow Traditional Olympiad of Linguistics 2002)*

**Problem 8.** Several phrases have been translated into Kazakh (written in Roman script here), but the translations are given in random order. Some of the words are missing.

| | |
|---|---|
| 1. ___(1)___ **ben elüw** | A. *one and five* |
| 2. **bir men bes** | B. *one and eight* |
| 3. **bir** ___(2)___ **segiz** | C. *three and two* |
| 4. **elüw eki men on** | D. *four and seven* |
| 5. ___(3)___ **men elüw** | E. *seven and fifty* |
| 6. **otız ben** ___(4)___ | F. *eight and fifty* |
| 7. **tört pen žeti** | G. *thirteen and thirty* |
| 8. **üš** ___(5)___ **eki** | H. *thirty and two* |
| 9. **on üš pen otız** | I. *fifty-two and ten* |

**(a)** Match each phrase with its correct translation and supply the missing words.

**(b)** Translate into Kazakh:

10. *five and thirty-eight*
11. *ten and four*
12. *seven and fifty-three*
13. *thirty-eight and five*

⚠ Kazakh language belongs to the Central Turkic groups of languages. It is the official language and principle native language of the Republic of Kazakhstan. It is spoken by about 6,5 million people in Kazakhstan and about 1,5 million people southern Siberia, northwestern China and northwestern Mongolia.

**i**, **ö**, **ü**, and **ı** are specific Kazakh vowels. **ž** = *s* in *vision*.

*—Pyotr Zubkov (Moscow Traditional Olympiad of Linguistics 2003)*

**Problem 9.** Japanese Chess (**Shōgi**), played on a board of size 9 by 9 and with a total of 40 men, is the most popular intellectual game in contemporary Japan, where it entertains between 10 and 20 million people. But between the 8th and 18th century many other variants of the game were invented in that country, some on smaller and some on larger boards.

The largest of all Japanese chess games (and generally the largest chess game in history) is **Taikyoku Shōgi** (more or less "Ultimate Chess"), in which the board is of size 36 by 36 (or 1296 squares in all) and every player has in the beginning an army of 402 men of 208 different types.

This is a table which contains the names of some of the men in Taikyoku Shōgi (in Japanese and in English translation), as well as the name of the man to which each of them promotes upon reaching one of the farthest 11 ranks of the board.

| Initial value | | | Promoted value | |
|---|---|---|---|---|
| ___(1)___ | *Running Stag* | ⇒ | **honroku** | ___(2)___ |
| ___(3)___ | ___(4)___ | ⇒ | **tōshō** | *Sword General* |
| **gyūhei** | *Ox Soldier* | ⇒ | ___(5)___ | ___(6)___ |
| ___(7)___ | *Right General* | ⇒ | **ugun** | ___(8)___ |
| ___(9)___ | *Ox General* | ⇒ | **hongyū** | ___(10)___ |
| **kyūhei** | *Bow Soldier* | ⇒ | ___(11)___ | *Bow General* |
| **kishō** | *Wood General* | ⇒ | ___(12)___ | ___(13)___ |
| **dohei** | *Crossbow Soldier* | ⇒ | ___(14)___ | ___(15)___ |
| ___(16)___ | ___(17)___ | ⇒ | ___(18)___ | *Dashing Horse* |
| ___(19)___ | *Left Chariot* | ⇒ | ___(20)___ | ___(21)___ |
| ___(22)___ | *Horse Soldier* | ⇒ | **sōba** | ___(23)___ |
| **sōyū** | *Running Bear* | ⇒ | ___(24)___ | *Dashing Bear* |
| **tonshō** | *Pig General* | ⇒ | **honton** | ___(25)___ |
| **tesshō** | ___(26)___ | ⇒ | **hakuzō** | *White Elephant* |
| ___(27)___ | ___(28)___ | ⇒ | **sagun** | *Left Army* |
| **usha** | ___(29)___ | ⇒ | **utessha** | *Right Iron Chariot* |
| ___(30)___ | ___(31)___ | ⇒ | **honrō** | *Dashing Wolf* |
| **sekishō** | *Stone General* | ⇒ | ___(32)___ | *White Elephant* |

**(a)** Fill in the blanks.

⚠ A bar above a vowel letter indicates length.

*—Ivan Derzhanski (Moscow Traditional Olympiad of Linguistics 2003)*

**Problem 10.** The Tupi-Guarani language family, widespread in the lowlands of South America, was very important in the history of the colonization of the continent. Among them, the most famous languages are Tupinambá (old Tupi), spoken along the Portuguese coast in the colonial times, and Guarani, still spoken today in southern Brazil, Argentina, Uruguay and Paraguay (being co-official in the later). The table below shows some words in Tupinambá, their translations to English and their correspondents in Guaraní Mbya, one of the forms of the Guaraní language.

| English | Tupinambá | Guaraní Mbya |
|---|---|---|
| *rock* | **itá** | **itá** |
| *soil* | **ybý** | **yvý** |
| *water* | **y** | **y** |
| *black* | **un** | **ũ** |
| *head* | **akanga** | **akã** |
| *to bring* | **erur** | **eru** |
| *to hear* | **endub** | **endu** |
| *to experiment* | **sa'ang** | **ha'ã** |
| *you want* | **erepotár** | **erepotá** |
| *to heal* | **pueráb** | **kuerá** |
| *I sleep* | **aker** | **aké** |
| *boss* | **ubixab** | __(12)__ |
| *rib* | **arukang** | __(15)__ |
| *to overcome* | **opuan** | __(18)__ |
| *peanut* | **mandubi** | __(21)__ |

| English | Tupinambá | Guaraní Mbya |
|---|---|---|
| *to beat* | **petek** | __(1)__ |
| *to hear* | **senub** | __(2)__ |
| *red* | **pyranga** | __(3)__ |
| *lizard* | **teju** | __(4)__ |
| *I say* | **a'é** | __(5)__ |
| *beautiful* | **porang** | __(6)__ |
| *mouth* | __(7)__ | **juru** |
| *half* | __(8)__ | **ku'a** |
| *wood* | __(9)__ | **yvyrá** |
| *you stay* | __(10)__ | **erepytá** |
| *high* | __(11)__ | **yvaté** |
| __(13)__ | __(14)__ | **ereké** |
| __(16)__ | **jaguar** | __(17)__ |
| __(19)__ | __(20)__ | **potá** |

**(a)** Fill in the blanks.

**(b)** Below there are names of several cities in Brazil that are of Tupi origin, and their meanings in no particular order. The two letters in brackets after each city name represent the Brazilian state in which they are located:

| | | | |
|---|---|---|---|
| 1. | **Ibiúna (SP)** | A. | *white soil* |
| 2. | **Ibiporanga (SP)** | B. | *great river* |
| 3. | **Iúna (ES)** | C. | *place for producing fishing hooks* |
| 4. | **Tijuípe (BA)** | D. | *lizard river* |
| 5. | **Pindamonhangaba (SP)** | E. | *red river* |
| 6. | **Jacarecoara (MA)** | F. | *turtle's burrow* |
| 7. | **Ibitinga (SP)** | G. | *sound the water does in the rock* |
| 8. | **Jericoaquara (CE)** | H. | *great rock* |
| 9. | **Ipiranga (PR)** | I. | *alligator's/yacare's burrow* |
| 10. | **Tijuaçu (BA)** | J. | *black soil* |
| 11. | **(Usina de) Itaipú (PR)** | K. | *black river* |
| 12. | **Itatinga (SP)** | L. | *fish of the yellow river* |
| 13. | **Itauçu (GO)** | M. | *beautiful land* |
| 14. | **Pirajuí (SP)** | N. | *big lizard* |
| 15. | **(Foz do) Iguaçu (PR)** | O. | *white rock* |

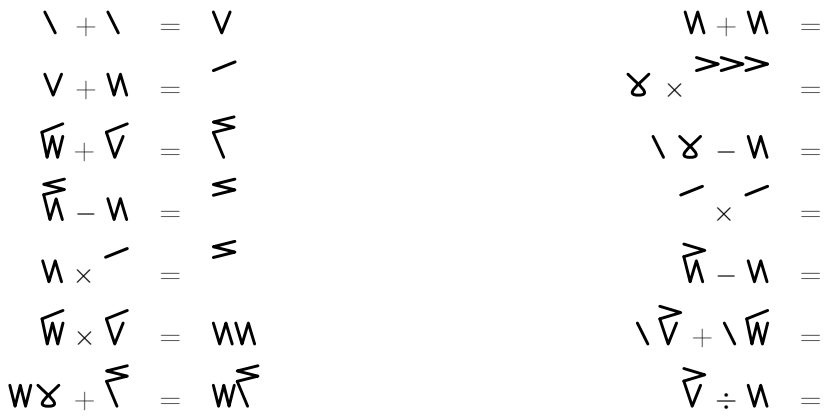
Match the correspondences between the columns.

⚠ **y** represents the closed central unrounded vowel [ɨ]. **b** represents the bilabial fricative consonant [β]. **ʻ** represents the glottal pause [ʔ], like the pause in *uh-oh*.

—*Victória Flório (Brazilian Linguistics Olympiad 2013)*

**Problem 11.** Inuktitut is one of the main languages of the Inuit people, which lives in several areas in the northern Canada and Alaska. Few years ago, students from a school in the small town of Kaktovik invented a new way of writing numbers, more appropriate for the way numbers are expressed in the Inuktitut language.

Imagine that you are travelling through northern Canada and find some Inuit students that know nothing about English, Latin script or Indo-Arabic numerals. Then, in order to start communication, one of the students offer you a list of mathematical operations, shown below (in the left column). This version of the table uses the Indo-Arabic symbols for the operations.



**(a)** Seeing that you understood the table, the student challenges you to write down the answers of another series of operations, shown in the right column. Give the answers in Inuktitut numerals.

**(b)** To assure the student that you understood the system, you decided to write down the date of today (day, month and year) in Inuktitut numerals, assuming they used Gregorian calendar. What did you write down?

*—Bruno L'Astorina & Felipe Gonçalves Assis (Brazilian Linguistics Olympiad 2011)*

**Problem 12.** Several multiplications have been written out in Basque. There are gaps in the last two lines.

| | | | |
|---|---|---|---|
| (a) | **bi** × **bi** | = | **lau** |
| (b) | **bi** × **bost** | = | **hamar** |
| (c) | **bi** × **hamar** | = | **hogei** |
| (d) | **hiru** × **bost** | = | **hamabost** |
| (e) | **hiru** × **hamar** | = | **hogeita hamar** |
| (f) | **bost** × **bost** | = | **hogeita bost** |
| (g) | **bost** × **zazpi** | = | **hogeita hamabost** |
| (h) | **zazpi** × **bederatzi** | = | **hirurogeita hiru** |
| (i) | **zazpi** × **hamar** | = | **hirurogeita hamar** |
| (j) | **lau** × **bost** | = | __(1)__ |
| (k) | __(2)__ × **hamar** | = | **laurogeita hamar** |

**(a)** Fill in the gaps.

**(b)** Write in figures:

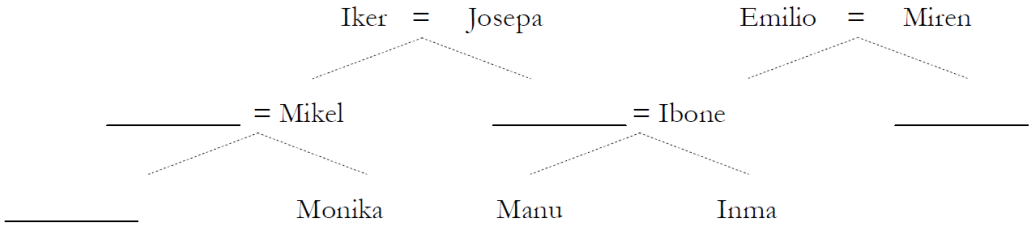
(l) **laurogeita hamahiru**
(m) **hirurogei**

**(c)** Write out in Basque: 39, 77, 80.

⚠ Basque is spoken by 500,000 to 600,000 people in France and Spain and by about 170,000 people in South America. It has not been proven to be related to any other language.

The letter **s** has the sound of English *sh*, **z** of *s*, and **tz** of *ts* in *cats*. The letter **h** is mute. —*Anna Pazelskaya (Moscow Traditional Olympiad of Linguistics 2002)*

**Problem 13.** This is the genealogical tree of a Basque family. The blanks spaces in the diagram stand for the names Ines, Kontxi, Felix, and Andres (listed here in no particular order).




Some of the relationships between the members of this family are described below in Basque:

- **Ines Mikelen emaztea da.**
- **Monika Kontxiren ahizpa da.**
- **Inma Manuren arreba da.**
- **Iker Joseparen senarra da.**
- **Mikel Felixen anaia da.**
- **Andres Iboneren neba da.**
- **Ibone eta Felix senar-emazteak dira.**
- **Andres eta Ibone Emilioren seme-alabak dira.**
- **Manu Iboneren semea da.**

**(a)** Identify the names that belong in the blank spaces in the diagram.

**(b)** Is Kontxi male or female? Explain, using the data from the problem.

**(c)** Fill in the gaps in the following Basque sentences (referring to the same family):

1. **Kontxi** __(1)__**ahizpa da.**
2. **Inma eta Manu Iboneren** __(2)__**.**
3. **Ibone Andresen** __(3)__**.**
4. **Manu Inmaren** __(4)__**.**
5. **Kontxi Mikelen** __(5)__**.**
6. **Emilio** __(6)__**senarra da.**

⚠ *Ibone*, *Ines*, *Inma*, *Josepa*, *Miren*, and *Monika* are women's names; *Andres*, *Emilio*, *Felix*, *Iker*, *Manu*, *Mikel* are men's names.

The letters **s** and **x** stand for sounds similar to English *sh*; **z** has the sound of English *s*, **tx** of English *ch*, **j** is a sound intermediate between *g* and *y*, **h** is mute.

*—Anna Pazelskaya (Moscow Traditional Olympiad of Linguistics 2003)*

**Problem 14.** Guðrún Eriksdóttir Hrafnhildardóttir and Jakob Christiansson had three kids, from which they are very proud, for their successes and for all of them have given them grandsons or granddaughters. In order to celebrate their 70th wedding anniversary, the long-lived couple had a party with all their descendants: sons and daughters, grandsons and granddaughters, great-grandsons and greatgranddaughters. Naturally, some of their sons-in-law and daguthers-in-law, as well as grandsons-in-law and granddaughters-in-law, were also invited. Here is the list of all the people in the party:

| | |
|---|---|
| **Christian Kristínsson** | **Margret Steinunnardóttir Jakobsdóttir** |
| **Daniel Guðrúnarson Jakobsson** | **Ragnheiður Jakobsdóttir** |
| **Daniel Steinunnarson Þorarinssonar.** | **Rakel Ragnheiðardóttir Bergmann** |
| **Eva Emilsdóttir Kvaran** | **Robert Bergmann Gunnarsson** |
| **Gunnar Gunnarsson** | **Sara Jakobs Þrarinssonar** |
| **Hrafn Kristínsson Viktorsson** | **Sigurður Jóns Bergmann** |
| **Ingimundur Sigurðarson Bergmann** | **Stefan Gunnarsson Gunnarssonar** |
| **Jakob Þorarinsson** | **Steinunn Jakobsdóttir** |
| **Jón Oddsson Bergmann** | **Viktor Danielsson Jakobssonar** |
| **Kristín Guðrúnardóttir Aronsdóttir** | **Viktoría Viktorsdóttir** |

**(a)** Among the participants, who is the older descendant of an immigrant?

**(b)** Which of the sons/daughters of Guðrún and Jakob has no grandsons/granddaughters?

**(c)** How many kids had Viktor?

**(d)** How many kids had Steinum?

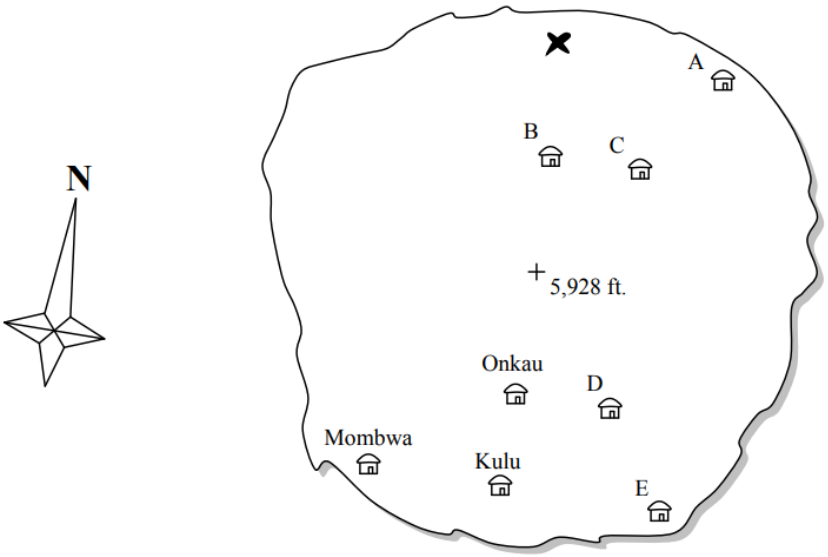
**(e)** Which of the sons/daughters of Rakel didn't inherit any of her surnames?

**(f)** Write five possibilities of name and surname for the son that Eva and Christian are waiting, knowing that his first name will be the same as the father of the pop singer Björk Guðmundsdóttir.

**(g)** Steinunn liked very much his grandmother (mother of her mother), so that she gave her name to the daughter she had with Björn Annasson, before she maried with her present husband. Give two possibilites for the name of this girl.

⚠ **j** is pronounced like *y* in *you*; **Ð** and **ð** are pronounced like *th* in *this*. **Þ** and **þ** are pronounced like *th* in *thin*. *—Robson Carapeto (Brazilian Linguistics Olympiad 2013)*

**Problem 15.** Manam Pile ("Manam Talk") is a Malayo-Polynesian language spoken on Manam Island off the coast of Papua New Guinea. Manam is one of the most active volcanoes in the world, and during violent eruptions the population must be evacuated to the mainland.




Below, a Manam islander describes the relative locations of the houses above.

1. **Onkau pera kana auta ieno, Kulu pera kana ilau ieno.**
2. **Mombwa pera kana ata ieno, Kulu pera kana awa ieno.**
3. **Tola pera kana auta ieno, Sala pera kana ilau ieno.**
4. **Sulung pera kana awa ieno, Tola pera kana ata ieno.**
5. **Sala pera kana awa ieno, Mombwa pera kana ata ieno.**
6. **Pita pera kana ilau ieno, Sulung pera kana auta ieno.**
7. **Sala pera kana awa ilau ieno, Onkau pera kana ata auta ieno.**
8. **Butokang pera kana awa auta ieno, Pita pera kana ata ilau ieno.**

**(a)** Onkau's, Mombwa's, and Kulu's houses have already been located on the map above. Who lives in the other five houses?

**(b)** Arongo is building his new house in the location marked with an X. In three Manam Pile sentences like the ones above, describe the location of Arongo's house in relation to the three closest houses.

*—Patrick Littell (North American Computational Linguistics Olympiad 2008)*

**Problem 16.** The following Guaraní verb forms are listed along with their English translations.

| | | | |
|---|---|---|---|
| **japyhyta** | *we will be catching* | **noñe'ẽi** | *he is not talking* |
| **nohyvykõiri** | *he is not enjoying* | **okororõ** | *he is crying* |
| **ombokapu** | *he is shooting* | **ndajajupirima** | *we were not waking up* |
| **pemomaitei** | *you are greeting* | **ahyvykõima** | *I was enjoying* |
| **ndokarumo'ãi** | *he will not be eating* | **añe'ẽta** | *I will be talking* |
| **ndapevo'oima** | *you were not taking* | **namomaiteiri** | *I am not greeting* |
| **napekororõmo'ãi** | *you will not be crying* | **japurahei** | *we are singing* |

**(a)** Translate into English:

1. **akaruma**
2. **ojupita**
3. **ndavo'omo'ãi**
4. **napekororõi**
5. **ndapyhyima**

**(b)** Translate into Guaraní:

6. *you are not shooting*
7. *he is not singing*
8. *we will be eating*
9. *I will not be singing*

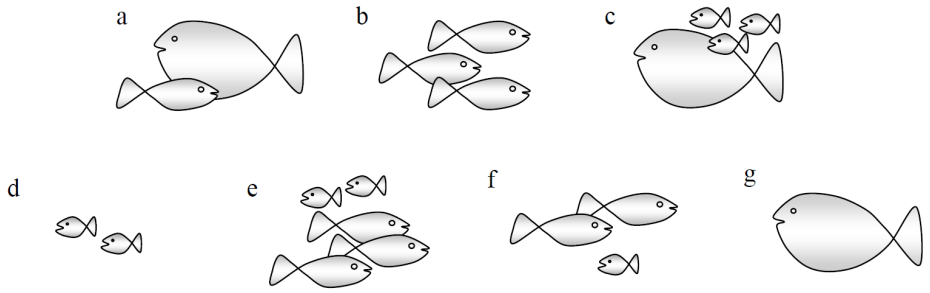
⚠ Guaraní is one of the official languages (along with Spanish) of Paraguay, where it is spoken by 94% of the population.

*you* is always plural in the sentences above. A squiggle over a vowel indicates that it is nasal (pronounced partly through the nose). The letter **ñ** is pronounced like the sound in the middle of *piñata* or *onion*. The letter **y** is pronounced like the *u* in *cut*. The letter **j** and the apostrophe (**'**) are specific consonants.

—*Bozhidar Bozhanov (North American Computational Linguistics Olympiad 2009)*

**Problem 17.** Aymara is a South American language spoken by more than 2 million people in the area around Lake Titicaca, which, at 12,507 feet above sea level, is the highest navigable lake in the world. Among the speakers of Aymara are the Uros, a fishing people who live on artificial islands, woven from reeds, that float on the surface of Lake Titicaca.

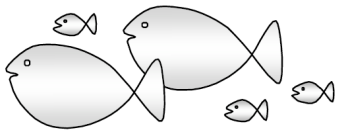
Below, seven fishermen describe their catch.




1. **Mä hach'a challwawa challwataxa.**
2. **Kimsa hach'a challwawa challwataxa.**
3. **Mä challwa mä hach'a challwampiwa challwataxa.**
4. **Mä hach'a challwa kimsa challwallampiwa challwataxa.**
5. **Paya challwallawa challwataxa.**
6. **Mä challwalla paya challwampiwa challwataxa.**
7. **Kimsa challwa paya challwallampiwa challwataxa.**

**(a)** Who caught what? Also, watch out! *One of the fishermen is lying.*

**(b)** Your daily catch is pictured below. Describe it in Aymara, and don't lie!



⚠ **ä** is a long **a**; **ll** is pronounced as *ly*; **x** as the *ch* in Scottish *loch*. Some vowels transcribed here are deleted in actual speech.

*—Patrick Littell (North American Computational Linguistics Olympiad 2008)*

**Problem 18.** Toki Pona is a constructed language, created in 2011 by the Canadian linguist Sonja Elen Kisa. Her aim was the language to be a minimal language, undervaluing the empty and abstract communication such as the ones of politicians and bureaucrats and pointing more directly to the concrete human life experiences. Therefore, the language makes use of only 123 words, with roots coming from different language families.

What follows is a list of some words and expressions in Toki Pona and, out of order, their English translations:

**kiwen suno jelo**, **tomo tawa telo**, **jan Powi**, **ilo suno**, **telo jelo**, **jan ilo**, **jan toki**, **supa lape**, **supa moku**, **ma tomo**, **wile moku**, **tawa**, **nasin linja**, **wile pona**, **telo kiwen**, **lipu toki**, **wile lawa**, **linja lawa**, **tomo moku**, **linja kiwen**

*prophet*, *well-intentioned*, *hair*, *lantern*, *ice*, *robot*, *boat*, *thorn*, *hungry*, *Boris*, *book*, *piss*, *city*, *bed*, *orthodoxy*, *movement*, *restaurant*, *dominant*, *dinner table*, *gold*

**(a)** Do the right associations between the words and translations.

**(b)** Give the translation of all the simple Toki Pona words used in the compounded words and expressions of this problem.

**(c)** How would you translate literally the name of the language?

*—Bruno L'Astorina (Brazilian Linguistics Olympiad 2012)*