January 24, 2019

The Thirteenth Annual
North American Computational Linguistics Olympiad
2019

Open Round
January 24, 2019

Serious language puzzles that are surprisingly fun!

-Will Shortz, Crossword editor of The New York Times and Puzzlemaster for NPR
Welcome to the thirteenth annual North American Computational Linguistics Olympiad! You are among the few, the brave, and the brilliant to participate in this unique event. In order to be completely fair to all participants across North America, we need you to read, understand, and follow these rules completely.

**Rules**

1. The contest is three hours long and includes eight problems, labeled A to H.
2. Follow the facilitators’ instructions carefully.
3. If you want clarification on any of the problems, talk to a facilitator. The facilitator will consult with the jury before answering.
4. You may not discuss the problems with anyone except as described in items 3 & 11.
5. Each problem is worth a specified number of points, with a total of 100 points. In this year’s open round, no points will be given for explanations. Instead, make sure to fill out all the answer boxes properly.
6. All your answers should be in the Answer Sheets at the end of this booklet. ONLY THE ANSWER SHEETS WILL BE GRADED.
7. Write your name and registration number on each page of the Answer Sheets. Here is an example: Jessica Sawyer #850
8. The top 10% of participants (approximately) across the United States and Anglophone Canada in the open round will be invited to the second round.
9. Some problems are more difficult than others, but all can be solved using ordinary reasoning and some basic analytic skills. You don’t need to know anything about linguistics or about these languages in order to solve them.
10. If we have done our job well, very few people will solve all these problems completely in the time allotted. So, don’t be discouraged if you don’t finish everything.
11. **DO NOT DISCUSS THE PROBLEMS UNTIL THEY HAVE BEEN POSTED ONLINE! THIS MAY BE A COUPLE OF MONTHS AFTER THE END OF THE CONTEST.**

Oh, and have fun!
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(A) Malteaser (1/2) [10 Points]

Maltese is a Semitic language and is the national language of Malta, where it is spoken by about 560,000 people. Along with English it is an official language in Malta, and is also one of the European Union’s official languages. Here are some nouns in Maltese given along with their definite articles (“the”).

<table>
<thead>
<tr>
<th>Maltese</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>il lanċas</td>
<td>(the pear)</td>
</tr>
<tr>
<td>li mħadda</td>
<td>(the pillow)</td>
</tr>
<tr>
<td>is śhana</td>
<td>(the heat)</td>
</tr>
<tr>
<td>il mara</td>
<td>(the woman)</td>
</tr>
<tr>
<td>iċ ċpar</td>
<td>(the mist)</td>
</tr>
<tr>
<td>il ġobon</td>
<td>(the cheese)</td>
</tr>
<tr>
<td>li kśieħ</td>
<td>(the cold)</td>
</tr>
<tr>
<td>l ġhonq</td>
<td>(the neck)</td>
</tr>
<tr>
<td>il bar</td>
<td>(the bar)</td>
</tr>
<tr>
<td>l art</td>
<td>(the earth)</td>
</tr>
<tr>
<td>li ħmar</td>
<td>(the donkey)</td>
</tr>
<tr>
<td>id dar</td>
<td>(the house)</td>
</tr>
<tr>
<td>li bdiewa</td>
<td>(the peasants)</td>
</tr>
<tr>
<td>l uffiċċju</td>
<td>(the office)</td>
</tr>
<tr>
<td>iż Ċir</td>
<td>(the jug)</td>
</tr>
<tr>
<td>il ġvant</td>
<td>(the east)</td>
</tr>
<tr>
<td>ir raġel</td>
<td>(the man)</td>
</tr>
<tr>
<td>il ktieb</td>
<td>(the book)</td>
</tr>
<tr>
<td>l jum</td>
<td>(the day)</td>
</tr>
<tr>
<td>il ġvoja</td>
<td>(the violet)</td>
</tr>
<tr>
<td>is siġġ</td>
<td>(the snow)</td>
</tr>
</tbody>
</table>

As you can see, Maltese has some consonants that are different from those of English. To help you understand how these consonants are pronounced, here is some information on their location in the mouth and manner of articulation.

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Pharyngeal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop</td>
<td>p, b</td>
<td>t, d</td>
<td></td>
<td>k, g</td>
<td></td>
<td>q</td>
</tr>
<tr>
<td>Affricate</td>
<td>ċ, ġ, z</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f, v</td>
<td>s, ž, x</td>
<td></td>
<td></td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>Semivowel</td>
<td></td>
<td>j</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill/Lateral</td>
<td>r, l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

- **labial** = with the lips, **alveolar** = with the tip of the tongue, **palatal** = with the hard palate of the mouth, **velar** = with the soft palate of the mouth, **pharyngeal** = with the pharynx of the throat, **glottal** = with the glottis
- **nasal** = through the nose, **stop** = with stopped airflow, **fricative** = with friction, **affricate** = stop followed by fricative, **semivowel** = like a shorter vowel, **trill** = with the tongue vibrating, **lateral** = with air though the sides of the mouth
- Also, the letter **h** and combination **gh** are silent (not pronounced)

[Image of the characters n, a, c, l, o]
(A) Malteaser (2/2)

**A1.** Two of the words above don't follow the normal rules of Maltese. What are these two words? Mark them down on the answer sheets.

**A2.** Give the appropriate form of the definite article for the following nouns on the answer sheets. All of these nouns follow the normal rules of Maltese.

| _ _ xkora   | (sack)          |
| _ _ ġebla   | (stone)         |
| _ _ mniher  | (nose)          |
| _ _ xemx    | (sun)           |
| _ _ kafè    | (coffee)        |
| _ _ hena    | (happiness)     |
| _ _ ghajn   | (eye)           |
| _ _ tama    | (hope)          |
| _ _ ors     | (bear)          |
| _ _ missier | (father)        |
| _ _ lura    | (back)          |
| _ _ ilma    | (water)         |
| _ _ beraq   | (lightning)     |
| _ _ nar     | (fire)          |
| _ _ nifs    | (breath)        |
| _ _ dlam    | (darkness)      |
(B) You Speak Ndebele, Don’t You? (1/1) [15 Points]

Below are some phrases from the Ndebele language, spoken by 1.6 million in parts of southern Africa (mainly Zimbabwe), along with their English translations.

Yebo, ngiyafuna. Yes, I do (want to).
Sifuna ukuhambana. We want to go.
Umfana uyapheka. The boy is cooking.
Ngifunda ukuphekela. I am learning to cook.
Abafana bayahambana. The boys are going.
Abangane bayahambana na? Are the friends going?
Umngane uyahambana angithi? The friend is going, isn’t he?
Abafana banatha itiye na? Are the boys drinking tea?
Umngane uyanatha. The friend is drinking.
Banjani abantwana? How are the children?
Uthunga njani? How do you sew?
Uufuna ukufunda angithi? He wants to learn, doesn't he?
Yebo, uyafuna. Yes, he does (want to).
Bangaphi abafana? Where are the boys?
Ubaba ubona umfana. Father sees the boy.
Uufuna ukunatha itiye na? Do you want to drink tea?
Ngifunda ukukhuluma indebele ngaphi? Where do I learn to speak Ndebele?

B1. Translate the following sentences into English and write them down on the answer sheets:
   (a) Yebo, bafuna ukubona.
   (b) Umfana uffunda ukuthungu njani?
   (c) Singaphi?
   (d) Ngipheka itiye.

B2. Translate the following sentences into Ndebele and write them down on the answer sheets:
   (a) How is the child?
   (b) We are learning to cook, aren’t we?
   (c) Yes, they are speaking.
   (d) Do they want to see the father?

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(C) Here is One Hand (1/1) [20 Points]

Catio is a language in the Chocoan family spoken by about 15,000 people in Colombia and Panama. Here are some words in Catio, given in no particular order:

1. umé
2. kakua ume audu kʰimárē
3. huwua ūbéa audu kʰimárē
4. huwua ume audu ába
5. ūbéa
6. kakua
7. kakua ába audu umé
8. huwua ába audu umé
9. huwua ūbéa
10. kakua umé
11. kakua kʰimárē audu ūbéa
12. huwua

And here are their English translations, in alphabetical order:

A. eighty-three
B. eleven
C. forty-four
D. hand
E. nineteen
F. person
G. seven
H. three
I. three hands
J. twenty-two
K. two
L. two people

C1. Write the letters (A-L) of the English translation corresponding to the Catio words on the answer sheets.

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(D) Predicate Etiquette (1/3) [15 Points]

Sentences can be true, false, or, sometimes, truly nonsensical. For sentences of the form, “The [subject] is [predicate]”, we can divide them into “sensible” and “nonsensical” groups:

**sensible**
- The moon is purple. ✓
- The game is an hour long. ✓
- The girl is sorry. ✓

**nonsensical**
- The idea is purple. *
- The pig is an hour long. *
- The fear is sorry. *

In 1959, philosopher Fred Sommers theorized that the predicates of any language were organized in a binary tree structure, according to which subjects they could be used sensibly with. In 1979, psychologist Frank C. Keil tested Sommers’ tree theory by asking children whether given English sentences made sense or not and diagramming the results. He confirmed Sommers’ theory, producing trees like this one:

![Tree diagram](image)

(D) Predicate Etiquette (2/3)

Here are some English sentences that use words you may not be familiar with:

The morkle is phlebular. ✓
The humbrid is phlebular. ✓
The morkle is luctious. *
The quexor is luctious. ✓
The pladry is luctious. ✓
The groob is efrimious. *
The vippage is efrimious. ✓
The pladry is frugent. *
The groob is frugent. *
The thalf is frugent. *
The thalf is stibly. *
The groob is luctious. *

The groob is brastic. ✓
The vippage is molistic. *
The quexor is molistic. *
The thalf is molistic. ✓
The humbrid is molistic. ✓
The groob is frugent. *
The thalf is frugent. *
The thalf is stibly. *
The groob is luctious. *

Here is a tree that shows the semantic structure of the words used in these sentences. Note that each number and letter in the tree corresponds to exactly one word.

Tree diagram typeset by Daniel Lovsted.
(D) Predicate Etiquette (3/3)

D1. Fill in the following table in the answer sheets. Some of the answers have already been entered:

<table>
<thead>
<tr>
<th>Predicate:</th>
<th>brastic</th>
<th>efrimious</th>
<th>frungent</th>
<th>luctious</th>
<th>molistic</th>
<th>phlebular</th>
<th>stibbly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>Subject:</td>
<td>groob</td>
<td>humbrid</td>
<td>morkle</td>
<td>pladry</td>
<td>quexor</td>
<td>thalf</td>
<td>vipage</td>
</tr>
<tr>
<td>Position:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

D2. Mark each of the following sentences with ✓ or * again, as usual, on the answer sheets:

A. The humbrid is frungent.
B. The morkle is stibbly.
C. The pladry is phlebular.
D. The groob is molistic.

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(E) Hate It or Lopit (1/1) [10 Points]

Lopit is a language spoken by around 50,000 people in the Eastern Equatoria province of South Sudan. The Lopit people live in around 60 villages along the Lopit mountain range. They grow a range of crops and farm cattle, sheep and goats.

Below are some sentences in the Dorik dialect of Lopit. There is no official writing system for the language, but the spelling used here is what many Lopit people use. In Lopit, when a word-initial ‘e’ comes before an ‘o’ or a ‘u’, the ‘e’ is instead pronounced as an ‘o’.

\begin{itemize}
    \item \textit{eitiyena lliwa aina} \quad \textit{lliwa teaches today.}
    \item \textit{eremo Lohidong waraga ho iguarit} \quad \textit{Lohidong spears the paper with the pen.}
    \item \textit{oromo haboroni de mana} \quad \textit{The big man digs in the field.}
    \item \textit{oboro habarani} \quad \textit{The cattle owner is big.}
    \item \textit{eibongo haidoloni ho haromoni de lecar} \quad \textit{The singer meets with the field hand at the dancehall.}
    \item \textit{eifuo lhidong de leitiyenari} \quad \textit{Ihidong cooks at the school.}
    \item \textit{efer hingohu de halu na haji} \quad \textit{The dog lies at the back of the house.}
    \item \textit{eiyoma haromok de iferit} \quad \textit{The field hands rest on the mat.}
    \item \textit{eramita wurre ho hingohu} \quad \textit{The children play with the dog.}
\end{itemize}

Translate the following sentences into Lopit and write them on the answer sheets:

\begin{itemize}
    \item \textbf{E1.} The big men dance with the shovel in the kitchen.
    \item \textbf{E2.} The teacher sings.
    \item \textbf{E3.} The cattle owners draw in the playground.
\end{itemize}
(F) Harmongolia (1/2) [10 Points]

Here are some words in the Khalkha dialect of Mongolian, a language spoken by approximately 5.2 million people in Mongolia and parts of China. Normally, Mongolian is written in either the Cyrillic or native Mongolian script. However, for ease of reading, all words have been transcribed into Latin script. For each word, the singular, plural, and directive\textsuperscript{1} forms are given, as well as the pronunciation of the singular form. Some forms are missing.

Note: in the Pronunciation column, a colon (:) after a vowel marks vowel length. ' over a vowel marks stress. [g] denotes a consonant that sounds like the g of green, pronounced farther back in the mouth. [ŋ] denotes the ng sound of sing.

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
<th>Directive</th>
<th>Pronunciation (sing.)</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>havčaar</td>
<td>havčaaruud</td>
<td>havčaarluu</td>
<td>[xavčáːɾ]</td>
<td>‘dog’</td>
</tr>
<tr>
<td>örh</td>
<td>örhüüd</td>
<td>öhrrüü</td>
<td>[érx]</td>
<td>‘household’</td>
</tr>
<tr>
<td>mangar</td>
<td>mangar nar</td>
<td>mangarluu</td>
<td>[máŋgar]</td>
<td>‘fool’</td>
</tr>
<tr>
<td>hun</td>
<td>hun nar</td>
<td>hunruu</td>
<td>[xøŋ]</td>
<td>‘man’</td>
</tr>
<tr>
<td>övs</td>
<td>övsüüd</td>
<td>övsrüü</td>
<td>[évø]</td>
<td>‘grass’</td>
</tr>
<tr>
<td>heer</td>
<td>heerüüd</td>
<td>heerlüü</td>
<td>[xeːɾ]</td>
<td>‘field’</td>
</tr>
<tr>
<td>neg</td>
<td>negüüd</td>
<td>(1)</td>
<td>[nɛɡ]</td>
<td>‘ace (playing cards)’</td>
</tr>
<tr>
<td>denlüü</td>
<td>denlüüčüüd</td>
<td>denlüürüü</td>
<td>[denlúː]</td>
<td>‘lamp’</td>
</tr>
<tr>
<td>zutan</td>
<td>zutanuud</td>
<td>zutanruu</td>
<td>[zótaŋ]</td>
<td>‘cream soup’</td>
</tr>
<tr>
<td>sugar</td>
<td>sugaruud</td>
<td>sugarluu</td>
<td>[sóɡar]</td>
<td>‘Venus (planet)’</td>
</tr>
<tr>
<td>šúleg</td>
<td>(2)</td>
<td>(3)</td>
<td>[šúleg]</td>
<td>‘poem’</td>
</tr>
<tr>
<td>gal</td>
<td>galuud</td>
<td>galruu</td>
<td>[gál]</td>
<td>‘fire’</td>
</tr>
<tr>
<td>nuguu</td>
<td>nuguučuud</td>
<td>nuguuruu</td>
<td>[nɔɡoː]</td>
<td>‘back (body part)’</td>
</tr>
<tr>
<td>nökör</td>
<td>(4)</td>
<td>(5)</td>
<td>[někøɾ]</td>
<td>‘husband’</td>
</tr>
<tr>
<td>darga</td>
<td>(6)</td>
<td>(7)</td>
<td>(8)</td>
<td>‘mouth’</td>
</tr>
<tr>
<td>göölög</td>
<td>göölögüüd</td>
<td>göölögrüü</td>
<td>[ɡèlɔɡ]</td>
<td>‘puppy’</td>
</tr>
<tr>
<td>aav</td>
<td>aav nar</td>
<td>aavruu</td>
<td>[áːv]</td>
<td>‘father’</td>
</tr>
<tr>
<td>hüühen</td>
<td>hüühen nar</td>
<td>hüühenrüü</td>
<td>[xúːxeŋ]</td>
<td>‘woman’</td>
</tr>
<tr>
<td>ovog</td>
<td>(9)</td>
<td>(10)</td>
<td>[ővɔɡ]</td>
<td>‘surname’</td>
</tr>
</tbody>
</table>

1. The directive case has the meaning of movement towards something. For example, havčaarluu, the directive case of "dog", means "towards the dog."
(F) Harmongolia (2/2)

F1. Fill in the missing forms (1-10) on the answer sheets:

F2. One of the following Mongolian words was originally a loanword from another language: nutag, künda, šoron, gudamž, ehner. Which one is it? Write your answer in the answer sheets.

F3. Give the plural, directive, and pronunciation of the following words in the answer sheets:
   A) haančlah ‘king’
   B) gürvel ‘lizard’
   C) delgüür ‘store’
   D) zuun ‘century’
   E) čanar ‘quality’
(G) Break it Down! (1/2) [5 Points]

Computers, like humans, often encounter words they have never seen before among the stream of language constantly inundating them, which can pose a challenge for the computer’s understanding of language. One approach for handling novel words is to use a character-level model of language: Whereas word-level models treat words as non-decomposable units, character-level models can learn how individual letters (or chunks of letters) work together to create word meaning. For example, if a character-level model encounters the novel word non-walruslike, it could figure out its meaning based on the meanings of smaller chunks (non-, walrus, and like).

However, such a model might make mistakes if it breaks the word down incorrectly. The table on the left shows a list of words that a hypothetical character-level model might interpret incorrectly, while the table on the right shows (in random order) the definitions it might generate.

| 1. battery | A. ordered group of notions |
| 2. biking | B. small arrow-shooting device |
| 3. bowling | C. having two male monarchs |
| 4. conundrum | D. item sharing the role of being a beaten instrument used by female religious figures |
| 5. decent | E. did hurt beforehand |
| 6. divergent | F. in favor of a large farm vehicle |
| 7. extent | G. not attending |
| 8. idealist | H. sharply wound once more |
| 9. incoming | I. era of disorder |
| 10. message | J. like pancake-making material |
| 11. missing | K. remove pennies from |
| 12. mistrust | L. courteous man who descends below water |
| 13. preached | M. having three small glass containers |
| 14. pronouncement | N. flaky reddish material created by water droplets |
| 15. properties | O. small horseman |
| 16. protractor | P. material binding together I, you, she, he, etc. |
| 17. puffiness | Q. improperly produce a tune |
| 18. resting | R. former cloth dwelling |
| 19. trivial | S. appropriate pieces of neckwear |
| 20. unison | T. female northern bird |
| 21. weeknight | U. having one male child |
(G) Break it Down! (2/2)

G1. On your answer sheet, match the words with the definitions they would be given.

G2. What English words would the model give the following definitions? Hint: One of these three words appears on the previous page. Write your answers on the answer sheets.
   
   A. having two male children
   B. did hurt once more
   C. not not going out with
(H) Can you know / Hanunó'o? (1/2) [15 Points]

The Hanunó'o script is an indigenous script used to write the Hanunó'o language, spoken on Mindoro Island, northeast of Palawan Province of The Philippines. Traditionally, Hanunó'o was written by carving characters into strips of bamboo; consequently, it is written vertically (up and down), as opposed to horizontally like the English alphabet.

Below on the left is a list of Filipino place names written in Hanunó'o in random order. On the right is the same list in Latin script, in a different order. Note that there are two extra cities in the Latin list!

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<tr>
<th>1</th>
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</table>

A. Manila  
B. Lubang  
C. Rumbang  
D. Paluan  
E. Kaingal  
F. Marikit  
G. Pasig  
H. Magsikap  
I. Tubili  
J. Mimaropa  
K. Sablayan

**H1.** Determine the correct correspondences.

**H2.** Write the following Hanunó'o words in the Latin script.

<table>
<thead>
<tr>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
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<tbody>
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</tbody>
</table>
(H) Can you know / Hanunó'o? (2/2) [15 Points]

**H3.** Write the following words in the Hanunó'o script:

15. manuk  
16. bilawan  
17. nagsirung  
18. bais
Contest Booklet

REGISTRATION NUMBER

Name: ____________________________________________
Contest Site: _________________________________________
Site ID: ___________________________________________
City, State: ___________________________________________
Grade: ______

Please also make sure to write your registration number and your name on each page that you turn in.

SIGN YOUR NAME BELOW TO CONFIRM THAT YOU WILL NOT DISCUSS THESE PROBLEMS WITH ANYONE UNTIL THEY HAVE BEEN OFFICIALLY POSTED ON THE NACLO WEBSITE IN APRIL.

Signature: ___________________________________________
The North American Computational Linguistics Olympiad

Demographics

Gender: □ Female □ Male □ Other: __________________________________________ □ Prefer not to respond

If you are competing for the US, please fill out this box:

Do you consider yourself Hispanic/Latinx?

☐ Yes
☐ No
☐ Prefer not to respond

Which of the following categories describe you? Select all that apply.

☐ American Indian or Alaskan Native
☐ Asian
☐ Black or African American
☐ Native Hawaiian or Pacific Islander
☐ White
☐ Other: _____
☐ Prefer not to respond

If you are competing for Canada, please fill out this box:

Which of the following categories describe you? Select all that apply.

☐ Non-Indigenous
☐ Métis
☐ First Nations
☐ Inuit
☐ Other: _____
☐ Prefer not to respond

Which of the following categories describe you? Select all that apply

☐ Arab
☐ Black
☐ Chinese
☐ Filipino
☐ Japanese
☐ Korean
☐ Latin American
☐ South Asian
☐ Southeast Asian
☐ West Asian (e.g. Iranian, Afghan, etc.)
☐ White
☐ Other: _____
☐ Prefer not to respond
Answer Sheet (1/6)

Please input only one character per box, where relevant.

(A) Malteaser

1. First word:

   Second word:

2. xkora  ghajn  ilma
   ġebla  tama  beraq
   mniher  ors  nar
   xemx  missier  nifs
   kafè  lura  dlam
   hena

(B) You speak Ndebele, Don’t You?

1. a.  
   b.  
   c.  
   d.  

n a c l o
(B) You speak Ndebele, Don’t You? (continued)

2. a.

b.

c.

d.

(C) Here is One Hand

1. [ ] 2. [ ] 3. [ ] 4. [ ] 5. [ ] 6. [ ]
7. [ ] 8. [ ] 9. [ ] 10. [ ] 11. [ ] 12. [ ]

(D) Predicate Etiquette

1. | Predicate: | brastic | efrimious | frungent | luctious | molistic | phlebular | stibbly |
   | Position: |   |   |   |   |   |   | G |
   | Subject: | groob | humbrid | morkle | pladry | quexor | thalf | vippage |
   | Position: |   |   |   |   |   | 2 |   |

2. A. [ ] B. [ ] C. [ ] D. [ ]
(E) Hate it or Lopit

1.

2.

3.

(F) Harmongolia
Note: for pronunciation, please mark the brackets.

1. (1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)
(F) Harmongolian (continued)

2. 

3. A. Plural
   - Directive
   - Pronunciation

B. Plural
   - Directive
   - Pronunciation

C. Plural
   - Directive
   - Pronunciation

D. Plural
   - Directive
   - Pronunciation

E. Plural
   - Directive
   - Pronunciation

n a c l o
Answer Sheet (5/6)

(G) Break it Down!

1.  

2.  
   A. 
   B. 
   C. 

(H) Can you know / Hanunó’o?

1.  

2.  

10.  

11.  

12.  

13.  

14.  

n a c l o
Answer Sheet (6/6)

For #15-18, please write vertically as given in the problem.

<p>| | | | |</p>
<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>