

# Twentieth International Linguistics Olympiad

Bansko (Bulgaria), 23–29 July 2023

## Individual Contest Problems

### Rules for writing out the solutions

Do not copy the problems. Write down your solution to each problem on a separate sheet or sheets. On each sheet indicate the number of the problem, the number of your seat and your surname. If you do not do this, your work may be mislaid or misattributed.

Unless stated differently, you should describe any patterns or rules that you identified in the data. Otherwise your solution will not be awarded full marks.

**Problem 1 (20 points).** Here are two different forms of some verbs in Guazacapán Xinka and their English translations:

	Form 1	Form 2	Translation
1.	<b>piriy'</b> <i>it saw (it)</i>	<b>ĩmbir'i</b> <i>I see (it)</i>	<i>see</i>
2.	<b>im'ay</b> <i>it said (it)</i>	<b>ĩnim'a</b> <i>I say (it)</i>	<i>say, tell</i>
3.	<b>aplay'</b> etc.	<b>ĩnapal'a</b> etc.	<i>open (it)</i>
4.	<b>k'aniy'</b>	<b>ĩṅk'an'i</b>	<i>trap</i>
5.	<b>ḱikniy'</b>	<b>ĩṅḱin'i</b>	<i>obey,</i> <i>believe</i>
6.	<b>tundiy'</b>	<b>ĩdunat'i</b>	<i>play (an instrument)</i>
7.	<b>ṣakṣay'</b>	<b>ĩṣakats'a</b>	<i>steal</i>
8.	<b>kiṣiy'</b>	<b>ĩṅgits'i</b>	<i>roast</i>
9.	<b>hik'ay</b>	<b>ĩnhik'a</b>	<i>sew, weave</i>
10.	<b>hĩniy'</b>	<b>ĩnhin'i</b>	<i>learn, know</i>
11.	<b>yut̪muy'</b>	<b>ĩnyut̪um'u</b>	<i>suck candy</i>
12.	<b>ip̪lay'</b>	<b>ĩnipal'a</b>	<i>bathe (it)</i>
13.	<b>p'ahniy'</b>	<b>ĩmp'ahan'i</b>	<i>dig</i>
14.	<b>ter'oy</b>	<b>ĩnder'o</b>	<i>kill</i>
15.	<b>netkay'</b>	?	<i>push</i>
16.	<b>kiri'y'</b>	?	<i>pull</i>
17.	<b>p'uhruy'</b>	?	<i>make holes</i>
18.	<b>her'oy</b>	?	<i>smooth out</i>

(a) Fill in the gaps in rows 15–18.

Here are some more verb forms in Guazacapán Xinka and their English translations:

19.	<b>imbiiri?</b>	<i>I was seen</i>
20.	<b>hik'aŋ</b>	<i>I sewed, wove (it)</i>
21.	<b>iŋk'ata?</b>	<i>I lie down</i>
22.	<b>kirin'</b>	<i>I pulled (it)</i>
23.	<b>insiiru?</b>	<i>I hurried</i>
24.	<b>inişapa?</b>	<i>I leave</i>
25.	<b>inima?</b>	<i>I am being told // (it) is being said to me</i>
26.	<b>şawşan'</b>	<i>I planted (it)</i>
27.	<b>şur'uŋ</b>	<i>I chose (it)</i>
28.	<b>indeero?</b>	<i>I was killed; I died</i>
29.	<b>imbiri?</b>	<i>I am being seen</i>
30.	<b>heero?</b>	<i>it was smoothed out</i>
31.	<b>p'ihna?</b>	<i>it leaped</i>
32.	<b>şawşa?</b>	<i>it was planted</i>
33.	<b>ak'okama?</b>	<i>it kneels</i>
34.	<b>atero?</b>	<i>it is being killed; it dies</i>
35.	<b>k'aata?</b>	<i>it lay down</i>
36.	<b>asiru?</b>	<i>it hurries</i>
37.	<b>işpa?</b>	<i>it left</i>
38.	<b>aşakaşa?</b>	<i>it is being stolen</i>
39.	<b>her'oŋ</b>	?
40.	<b>inişpa?</b>	?
41.	<b>apla?</b>	?
42.	?	<i>it chose (it)</i>
43.	?	<i>I saw (it)</i>
44.	?	<i>I plant (it)</i>
45.	?	<i>it was trapped</i>
46.	?	<i>I leap</i>
47.	?	<i>it is being sewn, woven</i>
48.	?	<i>I was bathed</i>

(b) Fill in the gaps in rows 39–48.

△ ŋ = *ng* in *hang*. ş ≈ *sh* in *sheesh*. ts ≈ *ts* in *Patsy*. ʔ, h, ɬ, w and y are consonants; ʔ and consonants followed by ' are pronounced by briefly blocking the flow of air in the throat. i is a vowel. A doubled letter denotes length.

The Guazacapán Xinka language belongs to the Xinkan family. It was spoken in the town of Guazacapán in Guatemala. It no longer has any fluent native speakers—in the past 50 years, all former speakers of the language switched to speaking only Spanish instead.

—Samuel Ahmed