

(B) The Pame Game (1/3) [20 points]

The languages Northern and Central Pame belong to the Oto-Pamean branch of the Oto-Manguean language family. They are spoken in separate states of Mexico by approximately 5620 and 4350 people, respectively. Like all languages belonging to the same family, they have preserved some features of the proto-language (the common ancestor language of the family) but have changed in other features, making the languages similar yet different from one another. These differences can be in both the structure of the grammar and in the pronunciation of words. To help you know how words in these languages are pronounced, the following key is given to the pronunciation of the symbols:

t	voiceless alveolar plosive (the first sound in English <i>tea</i>)
d	voiced alveolar plosive (the first sound in English <i>do</i>)
n	voiced alveolar nasal (the first sound in English <i>new</i>)
s	voiceless alveolar fricative (the first sound in English <i>see</i>)
r	voiced alveolar flap (the sound made by the <i>r</i> in the Spanish word <i>pero</i>)
l	voiced alveolar lateral (the first sound in English <i>lead</i>)
tʃ'	voiceless alveolo-palatal ejective affricate (similar to the first sound in English <i>chew</i>)
ɲ	voiced alveolo-palatal nasal (similar to the <i>ny</i> sound in <i>canyon</i>)
k	voiceless velar plosive (the first sound in English <i>key</i>)
g	voiced velar plosive (the first sound in English <i>goo</i>)
k'	voiceless velar ejective (similar to the first sound in English <i>key</i>)
?	voiceless glottal plosive (the sound between the vowels in English <i>uh-oh</i>)
h	voiceless glottal fricative (the first sound in English <i>he</i>)
a	low unrounded vowel (similar to the sound in English <i>ah</i>)
e	mid front unrounded vowel (similar to the sound in English <i>eh</i>)
i	high front unrounded vowel (the first sound in English <i>eat</i>)
o	mid back rounded vowel (similar to the sound in English <i>oh</i>)
u	high back rounded vowel (the first sound in English <i>oops</i>)
j	high front unrounded vowel produced with glottal fry
ü	high back rounded vowel with nasal airflow



(B) The Pame Game (2/3)

Some numbers from Northern Pame are given below:

9 = kara tenhiuj sante
13 = kara tenhiuj git'aj
17 = kanuje tenhiuj sante
20 = kanuje tenhiuj giruij
26 = karnu? tenhiuj nuji
30 = karnu? tenhiuj tiria
35 = giruij tenhiuj rnu?

Here are some arithmetic equalities in Central Pame (note that \times means multiplication):

- | |
|--|
| (1) nda ntsaw? + seska?ai nda ntsaw? nda = nda lien tilijūhūj |
| (2) kijui + nda ntsaw? = seska?ai nui |
| (3) nda lien nda \times nui = nui lien nui |
| (4) tilijūhūj + kik'ai = tilija \times nui |
| (5) seska?ai ranhū? \times ranhū? = nda lien seska?ai nda ntsaw? nda |
| (6) seska?ai kik'ai + kik'ai = nui \times seska?ai |
| (7) kik'ai + ranhū? = nda ntsaw? |
| (8) nda + nui = ranhū? |

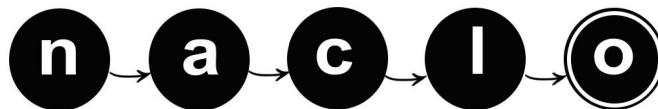
B1. Given that the following equality is satisfied:

Northern Pame	Central Pame
(9) teriuhij \times kara tenhiuj nuji	$=$ ranhū? lien seska?ai

a. Convert the following Northern Pame numbers to numerals:

$$\text{nuji} = \boxed{}$$

$$\text{karnu? tenhiuj teriuhij} = \boxed{}$$



(B) The Pame Game (3/3)

b. Write out the following numbers in Central Pame:

1 =

3 =

9 =

56 =

60 =

