

# 2010 Solutions

## (J) Plains Cree (1/3)

J1 (1 point). Below are six related words, meaning “little hat”, “little nail”, “little door”, “little head”, “minute”, and “little chair”. Which means which?

*cipahikanis* minute

*miscikwanis* little head

*cehcapiwinis* little chair

*sakahikanis* little nail

*ascocinis* little hat

*iskwahcemis* little door

J2 (4 points).

- |                                         |              |
|-----------------------------------------|--------------|
| a. $\cap <'' \Delta b^>$                | tipahikan    |
| b. $\triangleleft^n J \cap \sigma^n$    | ascocinis    |
| c. $\Lambda b'' \Delta b^>$             | sakahikan    |
| d. $\Gamma^n \cap b \cdot^>$            | mistikwan    |
| e. $\cap <'' \Delta b \sigma^n$         | cipahikanis  |
| f. $\Delta^n b \cdot'' \cap \Gamma^n$   | iskwahcemis  |
| g. $\Lambda b'' \Delta b \sigma^n$      | sakahikanis  |
| h. $\cup'' C \wedge \Delta^>$           | tehtapiwin   |
| i. $\Gamma^n \cap b \cdot \sigma^n$     | miscikwanis  |
| j. $\Delta^n b \cdot'' \cup^c$          | iskwahtem    |
| k. $\triangleleft^n C \cap^>$           | astotin      |
| l. $\cap'' \cup \wedge \Delta \sigma^n$ | cehcapiwinis |



# 2010 Solutions

## (J) Plains Cree (2/3)

**J3 (5 points).** Explain your answer.

For the first part, the rule for forming the diminutive in Cree is to add an *-is* suffix at the end of the word and change (“mutate”) every instance of <t> to <c>.

There are many logical routes through the first part, many of them very good. Here’s one way, which requires making comparatively few assumptions about what individual symbols might mean. First, we notice that the twelve items can be paired up into six very similar pairs:

$$\begin{array}{ll} \text{↳ b''Δb'} & \Leftrightarrow \text{↳ b''Δbσ''} \\ \text{Γ''∩b'·'} & \Leftrightarrow \text{Γ''∩b·σ''} \\ \text{◀''C∩'} & \Leftrightarrow \text{◀''J∩σ''} \\ \text{∩<''Δb'} & \Leftrightarrow \text{∩<''Δbσ''} \\ \text{U''CΛΔ'·'} & \Leftrightarrow \text{Γ''UΛΔ·σ''} \\ \text{Δ''b·''U'} & \Leftrightarrow \text{Δ''b·''ΓΓ''} \end{array}$$

From the second column being longer, and all ending in the same symbol, we can be pretty sure these are the *-is* forms. (And that this writing system writes left-to-right.)

We can notice now that, disregarding the different endings for a moment, that each item from the first column is *almost*, but not quite, identical to its sister in the second column. The remaining difference is that every time one of {∩CΛΔ} appears in the first column, it is replaced by {∩J∩U} in the second – that is, just like in the Roman alphabet versions, a “mutation” is happening to make the derived form.

At this point it’s simple to match the Roman pairs to Syllabics pairs based on where in the word these mutations occur. Each pair has a different pattern of mutation:

*sakahikan*  $\Leftrightarrow$  *sakahikanis* has no mutations,

as does ↳ b''Δb'  $\Leftrightarrow$  ↳ b''Δbσ''

*tipahikan*  $\Leftrightarrow$  *cipahikanis* has one at the beginning,

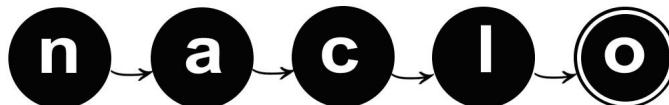
as does ∩<''Δb'  $\Leftrightarrow$  ∩<''Δbσ''

*mistikwan*  $\Leftrightarrow$  *miscikwanis* has one in the middle,

as does Γ''∩b'·'  $\Leftrightarrow$  Γ''∩b·σ''

*iskwahtem*  $\Leftrightarrow$  *iskwahcenis* has one towards the end,

as does Δ''b·''U'  $\Leftrightarrow$  Δ''b·''ΓΓ''



# 2010 Solutions

## (J) Plains Cree (3/3)

*tehtapiwin*  $\Leftrightarrow$  *cehcapiwinis* has two at/towards the beginning,

as does  $\text{U}^{\parallel}\text{C}\Delta\Delta^{\circ}$   $\Leftrightarrow$   $\text{Γ}^{\parallel}\text{Σ}\Lambda\Delta;\sigma^{\circ}$

*astotin*  $\Leftrightarrow$  *ascocinis* has two towards the end,

as does  $\triangleleft^{\circ}\cap\cap^{\circ}$   $\Leftrightarrow$   $\triangleleft^{\circ}\text{J}\cap\sigma^{\circ}$

At this point, we can also do a number of checks as well to show the internal consistency of our answer – that our answer for *iskwahcemi*s has the same sequence at the end as *mistikwan* and *miscikwanis* have at the beginning, that *sakahikan* and *tipahikan* have the same endings, etc.

The system that emerges is the following. The full-size symbols represent CV sequences; there is one per syllable. The shape of them represents the consonant, and the direction they are rotated represents the vowel.

	a	e	i	o
no consonant	$\triangleleft$		$\Delta$	
t	$\text{C}$	$\text{U}$	$\cap$	$\text{D}$
p	$<$		$\wedge$	
c	$\text{U}$	$\gamma$	$\cap$	$\text{J}$
k	$\text{b}$			
s	$\text{h}$			

You can see one pattern clearly between *t*, *p*, and no-consonant. There are two rotational patterns in Syllabics, actually, although it can't be concluded for certain just based on these data: asymmetrical symbols (like the *<c>* series) flip, but symmetrical symbols (like the *<t>* series) rotate. (Otherwise, if they flipped like the other series, you wouldn't be able to tell apart *<ta>* and *<ti>* or *<te>* and *<to>*.)

There is one full-sized character per syllable; characters not represented in this way are given superscript characters. *<s>*, *<m>*, and *<n>*, when not right before a vowel, are represented by  $^{\circ}$ ,  $\text{c}$ , and  $\text{d}$ , respectively. *<h>* is represented wherever it occurs by  $^{\parallel}$  -- if it occurs before a vowel, the  $^{\parallel}$  is used before the appropriate bare vowel character. *<w>*, when it occurs before a vowel, is represented by the dot  $\cdot$  after the vowel; like *h*, if the syllable is just *wV* the dot is used before the bare vowel character.

