(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. ∩<ORDER>$\Delta\overline{b}$                                      tipahikan
b. $\zeta^\prime\overline{\gamma}$                                          ascocinis

c. $\setminus\Delta\overline{b}$                                    sakahikan

d. $\Gamma^\prime\times\overline{b}$                                  mistikwan

e. ∩<ORDER>$\Delta\overline{b}$                                    cipahikanis
f. $\Delta^\prime\overline{b}$                                    iskwahcemis

g. $\setminus\Delta\overline{b}$                                    sakahikanis
h. $\cup^\prime\bigwedge\Delta$                                       tehtapiwin
i. $\Gamma^\prime\times\overline{b}$                                  miscikwanis
j. $\Delta^\prime\overline{b}$                                       iskwahtem
k. $\zeta^\prime\times\overline{\gamma}$                              astotin
l. $\cap\Delta\overline{\sigma}$                                   cehcapiwinis
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:

\[
\begin{align*}
\text{ᓴᑲᐦᐃᑲᐣ} & \quad \leftrightarrow \quad \text{ᓴᑲᐦᐃᑲᓂᐢ} \\
\text{ᒥᐢᑎᑲᐧᐣ} & \quad \leftrightarrow \quad \text{ᒥᐢᒋᑲᐧᓂᐢ} \\
\text{ᐊᐢᑐᑎᐣ} & \quad \leftrightarrow \quad \text{ᐊᐢᒍᒋᓂᐢ} \\
\text{ᑎᐸᐦᐃᑲᐣ} & \quad \leftrightarrow \quad \text{ᒋᐸᐦᐃᑲᓂᐢ} \\
\text{ᑌᐦᑕᐱᐃᐧᐣ} & \quad \leftrightarrow \quad \text{ᒉᐦᒐᐱᐃᐧᓂᐢ} \\
\text{ᐃᐢᑲᐧᐦᑐᑲ} & \quad \leftrightarrow \quad \text{ᐃᓐᓂᐦᒉᒥᐢ}
\end{align*}
\]

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 \{ᐱᐴᐴ\} appears in the first column, it is replaced by \{ᐱᐴᐴ\} 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 ⇔ sakahikanis** has no mutations,
  as does \(\text{ňb}^{\|}\Delta\text{b}^{\|}\) ⇔ \(\text{ňb}^{\|}\Delta\text{b}\sigma^{\|}\)

- **tipahikan ⇔ cipahikanis** has one at the beginning,
  as does \(\text{ň}<\|\Delta\text{b}^{\|}\) ⇔ \(\text{ň}<\|\Delta\text{b}\sigma^{\|}\)

- **mistikwan ⇔ miscikwanis** has one in the middle,
  as does \(\text{Γ}^{\|}\text{榶}^{\|}\text{b}^{\|}\) ⇔ \(\text{Γ}^{\|}\text{榶}^{\|}\text{b}\sigma^{\|}\)

- **iskwahtem ⇔ iskwahcemis** has one towards the end,
  as does \(\Delta^{\|}\text{b}^{\|}\text{U}^{\|}\text{c}^{\|}\) ⇔ \(\Delta^{\|}\text{b}^{\|}\text{U}\Gamma^{\|}\text{c}\)
tehtapiwin ⇔ cehcapiwinis has two at/towards the beginning,
as does Wildcard Symbol ⇔ Wildcard Symbol
astotin ⇔ ascocinis has two towards the end,
as does Wildcard Symbol ⇔ Wildcard Symbol

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 iskwahcemis 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.

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>e</th>
<th>i</th>
<th>o</th>
</tr>
</thead>
<tbody>
<tr>
<td>no consonant</td>
<td>4</td>
<td>Δ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>ٹ</td>
<td>ے</td>
<td>ں</td>
<td>ੜ</td>
</tr>
<tr>
<td>p</td>
<td>ہ</td>
<td>ں</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>ہ</td>
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<td>ہ</td>
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<tr>
<td>k</td>
<td>b</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s</td>
<td>ہ</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You can see one pattern clearly between t, p, and no-consonant. There are two rotational patterns in Syllab-
ics, 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 ∨, ؟, and ज,respectively.
<h> is represented wherever it occurs by ہ -- if it occurs before a vowel, the ہ is used before the appropriate
bare vowel character. <w>, when it occurs before a vowel, is represented by the dot ہ after the vowel; like
h, if the syllable is just wV the dot is used before the bare vowel character.