

# (N) Pseudorandom Numbers (1/2) [Solution]

**N1.** The nouns that follow one of the common patterns are: (d) tōoj (*pot*) and (f) tūuŋ (*horn*)

**N2.**

Root	1 <sup>st</sup> person	3 <sup>rd</sup> person	Translation
(a) lōoj	lōoɔɔj	(b) lōooj	<i>to be different</i>
(c) càm	(d) càam	cèem	<i>to eat</i>
pèec	pèeɛc	(e) pèeɛc	<i>to loot</i>
wic	(f) wjèɛc	wìic	<i>to need</i>
(g) bòk	(h) bwòɔk	bòok	<i>to throw at</i>

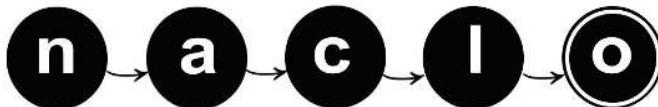
**N3.** Note that the forms given below are the forms deducible from the data in this problem and the assumption that these nouns conform to one of the common patterns. For some of these nouns, the actual Dinka singular or plural form is different from the deducible one(s).

Singular	Plural	Translation
(a) rjéɛm	rím	<i>blood</i>
(b) wjèɛɛl, wîil	wíil	<i>bristle</i>
àŋâaar	(c) àŋéɛr	<i>buffalo</i>
rèɛɛc	(d) réec	<i>fish</i>
(e) kál, kól	kàal	<i>hole in ground</i>
kók	(f) kwòɔk	<i>hole in tree</i>
ràaan	(g) réɛn, róon	<i>person</i>
(h) lèɛɛk, lêeek	léek	<i>pestle</i>
ról	(i) rwòɔl	<i>voice</i>
jìit	(j) jîit	<i>well</i>

## Explanation

Vowels come in 6 qualities and 3 grades:

Grade 1	i	e	a	ɔ	o	u
Grade 2	i	e	ɛ	ɔ	o	u
Grade 3	je	ɛ	a	a	wo	wo



## (N) Pseudorandom Numbers (2/2) [Solution]

Singular and plural patterns then correspond by changing the final vowel as follows (singular left, plural right), with subscripts indicating vowel grades:

$\acute{V}_1 - \grave{V}V_3$

$\grave{V}V_1 - \hat{V}V_2$

$\grave{V}VV_3 - \acute{V}V_2$

$\hat{V}VV_1 - \acute{V}V_2$

$\acute{V}V_3 - \acute{V}_1$

In the verbs there are two (closely related) patterns, shown below (each row its own pattern):

Root	1 <sup>st</sup> person	3 <sup>rd</sup> person
$\grave{V}_1$	$\grave{V}V_3$	$\grave{V}V_2$
$\grave{V}V_1$	$\grave{V}VV_3$	$\grave{V}VV_2$

Height: the Grades (1-3) show patterns with vowel height. All qualities except a / ε / a can be described by the rule: Grades 1 and 2 have same height, Grade 3 is lowered. To incorporate the quality a / ε / a, the rule can be made more general: from Grade 1 to Grade 2, do not lower (either maintain or increase height); from Grade 2 to Grade 3, lower.

Dinka also features a distinction between “creaky” and “breathy” vowels, but to simplify this problem, it has not been marked.

Source: Andersen, Torben. “Chapter 9. Number in Dinka,” in *Number—Constructions and Semantics: Case studies from Africa, Amazonia, India and Oceania* (Anne Storch and Gerrit J. Dimmendaal, eds.), John Benjamins, 2014.

