

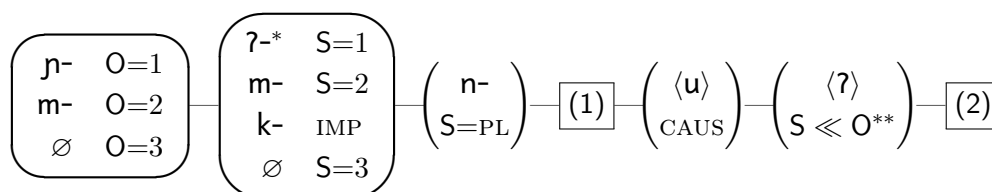
# Eighth Asia Pacific Linguistics Olympiad

March 29 – April 12, 2026

## Solutions

### Problem 1.

1. Verb structure:



\* #ʔC... → #ɣC...

\*\* 1 ≫ 2 ≫ 3

(e.g. S = 2, O = 1 ⇒ S ≪ O)

(1) — (2)

n—ar *steal*

m—ap *want*

x—tup *jump*

∅—ijɲ *give*

∅—a: *go*

∅—amp *walk*

#### Abbreviations

#	word boundary
S	subject
O	object
IMP	imperative
CAUS	causative ( <i>make X do Y</i> )
1	first person
2	second person
3	third person
PL	plural

- (a) 1. *I walk*  
 2. *you(pl) make him go*  
 3. *they want me*

- (b) 4. ɲuʔa: *he makes me go*  
 5. ɲkuʔamp *make me walk!*

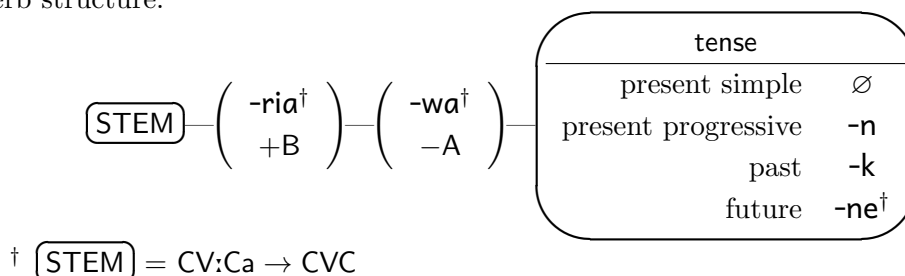
- (c) 6. ʔa:  
 7. na:  
 8. ɲkxuʔtup  
 9. mnamp  
 10. mnar  
 11. mnmʔap  
 12. ɲʔijɲ

**Problem 2.**

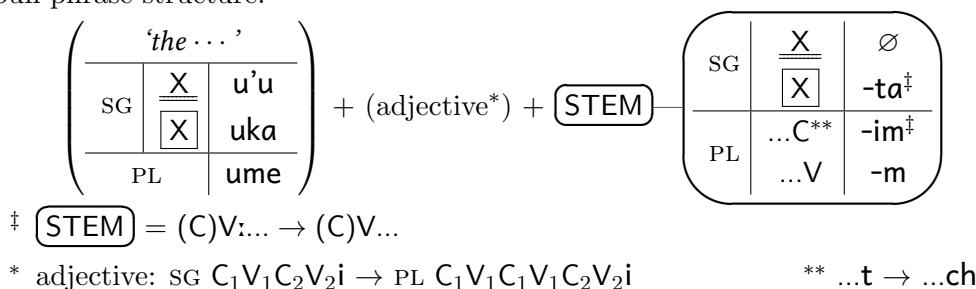
1. Sentence structure:

$$\bullet \left[ \underline{A} \quad V_i \right] \begin{cases} \xrightarrow[+B]{-ria} \left[ \underline{A} \quad \underline{B} \quad V_i \right] \\ \xrightarrow[-A]{-wa} \left[ \emptyset \quad V_i \right] \quad \emptyset = \text{'someone'}
$$\bullet \left[ \underline{A} \quad \underline{P} \quad V_t \right] \begin{cases} \xrightarrow[+B]{-ria} \left[ \underline{A} \quad \underline{B} \quad \underline{P} \quad V_t \right] \\ \xrightarrow[-A]{-wa} \left[ \emptyset \quad \underline{P} \quad V_t \right] \end{cases} \xrightarrow[+B-A]{-ria-wa} \left[ \emptyset \quad \underline{B} \quad \underline{P} \quad V_t \right]$$$$

2. Verb structure:



3. Noun phrase structure:



Abbreviations

- |   |             |
|---|-------------|
| V <sub>i</sub> intransitive verb                      | C consonant |
| V <sub>t</sub> transitive verb                        | V vowel     |
| A agent (who does the action)                         | SG singular |
| P patient (who is affected by the action)             | PL plural   |
| B beneficiary (who benefits from the action; ‘for B’) |             |

- (a) 11. *A child sang.*  
 12. *A sea turtle is hit.*  
 13. *The bird will cry for the sea turtle.*  
 14. *The chiefs hit [present] some white flowers.*
- (b) 15. *wi:kit tekota po:nan*  
 16. *ume chuchukui wikichim ume u:sim bwikria*  
 17. *u’u mi:si uka husai chu’uta ponriawan*

**Problem 3.**

1.  $1 \leq X \leq 10$ :

1	2	3	4	5	6	7	8	9	10
atdi	ɔʏ	ɪbhɛ	ɪfɔ	imbo	aza	arɘbhɛ	arɛ	arɘgɛtɔ	ɪdrɛ

2. Traditional system:

$$Y = 4n \quad (n = 3, 4, \dots, 8): \frac{12 \quad 16 \quad 20 \quad 24 \quad 28 \quad 32}{\text{otsi} \quad \text{ɔpɪ} \quad \text{aba} \quad \text{arotsi} \quad \text{adzoro} \quad \text{wadhɪ}}$$

$$\rightarrow Y - 1: Y\text{-vi} \quad Y + 1: Y \text{ dɔ atdi} \quad Y + 2: Y \text{ dɔ } \text{ɔʏ}$$

$$32 + W: \text{wadhɪ dɔ } W \quad (1 \leq W < 32)$$

$$32 \times Z [+W]: Z \text{ wadhɪ [dɔ } W] \quad (1 < Z < 32; 1 \leq W < 32)$$

3. New system:

$$10 + P: \text{ɪdrɛ dɔna } P \text{ na} \quad (1 \leq P < 10)$$

$$10 \times Q [+P]: Q \text{ kumi [dɔna } P \text{ na]} \quad (1 < Q < 10; 1 \leq P < 10)$$

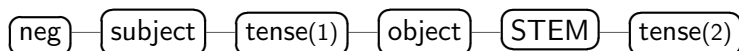
$$100 [+R]: \text{mɪya [dɔna } R \text{ na]} \quad (1 \leq R < 100)$$

$$100 \times S [+R]: S \text{ mɪya [dɔna } R \text{ na}^*] \quad (1 < S < 10; 1 \leq R < 100) \quad * \dots \text{ na na}$$

Traditional system	New system	Value
otsivi	ɪdrɛ dɔna atdi na	11
otsi	ɪdrɛ dɔna ɔʏ na	12
otsi dɔ atdi	ɪdrɛ dɔna ɪbhɛ na	13
ɔpɪ	ɪdrɛ dɔna aza na	16
(A) abavi	ɪdrɛ dɔna arɘgɛtɔ na	19
arotsivi	ɔʏ kumi dɔna ɪbhɛ na	23
adzoro dɔ atdi	ɔʏ kumi dɔna arɘgɛtɔ na	29
(B) wadhɪ dɔ ɔpɪvi	ɪfɔ kumi dɔna arɘbhɛ na	47
wadhɪ dɔ wadhɪvi	(C) aza kumi dɔna ɪbhɛ na	63
ɔʏ wadhɪ dɔ otsi	arɘbhɛ kumi dɔna aza na	76
(D) ɔʏ wadhɪ dɔ arotsi dɔ ɔʏ	arɘgɛtɔ kumi	90
ɪbhɛ wadhɪ dɔ adzorovi	mɪya dɔna ɔʏ kumi dɔna ɪbhɛ na	123
ɪfɔ wadhɪ dɔ ɔpɪ dɔ ɔʏ	(E) mɪya dɔna ɪfɔ kumi dɔna aza na	146
imbo wadhɪ dɔ ɪdrɛ	(F) mɪya dɔna arɘbhɛ kumi na	170
arɘbhɛ wadhɪ dɔ aba dɔ atdi	ɔʏ mɪya dɔna ɪfɔ kumi dɔna imbo na	245
(G) arɛ wadhɪ dɔ arotsi	ɔʏ mɪya dɔna arɛ kumi na	280
(H) arɘgɛtɔ wadhɪ dɔ ɔpɪ dɔ atdi	ɪbhɛ mɪya dɔna imbo na	305

**Problem 4.**

1. Verb structure:



	subject	object
<i>we/us</i>	tú-	tu-
<i>he/him</i>	a-	mu-
<i>they/them</i>	βá-	βa-
<i>it</i>	—	ki-

		neg	tense	
			(1)	(2)
present simple	affirmative	∅	∅	-a
	negative	ti-	∅	
present progressive	affirmative	∅	liku-	-á
	negative	tí-	líku-	

2. Phonological rules:

- STEM =  $[\sigma_H]$  or  $[\sigma_L\sigma_H^*]$  (e.g.  $\sigma_L\sigma_H$ ,  $\sigma_L\sigma_H\sigma_H$ ,  $\sigma_L\sigma_H\sigma_H\sigma_H$ , ...)
- $tú/\betaá + \text{STEM}[\sigma_L\dots] \rightarrow tu/\beta a + \text{STEM}[\sigma_H\dots]$
- $a + \text{STEM}[\sigma] \text{ (monosyllabic)} \rightarrow aa + \text{STEM}[\sigma]$
- $[Cu/i] + \text{STEM}[V\dots] \rightarrow [Cw/y] + \text{STEM}[VV\dots]$   
otherwise,  $\dots u/i + V\dots \rightarrow \dots w/y + V\dots$

Abbreviations

C	consonant	$\sigma$	syllable	H	high tone
V	vowel	[ ]	morpheme boundary	L	low tone
neg	negative				

- (a)
1. túmutya                      *we fear him*
  2. tíβálikwanzúlúlá        *they are not extending (something)*
  3. titwoonóóná                *we do not spoil (something)*
  4. alikutusíβá                 *he is tying us*
  5. βahólóóta                  *they snore*
- (b)
6. tyalíkumwoonóóná
  7. túβavunáánízya
  8. titwaanzúlúlá
  9. βálikutolóká
  10. tyaatyá

**Problem 5.**

1. Noun phrase structure:

{		SG	PL	+ <span style="border: 1px solid black; border-radius: 10px; padding: 2px 5px;">STEM<sup>†</sup></span> (PL -ndè <sup>***</sup> )	
	(i)*	1	máá		nè màà
		2	àà		àà màà
		3	màà		nì màà
(ii)**	‘the ...’	ā			
(iii)	otherwise,	∅			

\* ...à → ...ā (before L)

\*\* ā → à (before L)

\*\*\* ndè → ndé (after L)

† STEM:

(iii)	→	SG	PL	
		(i)	(ii)	(i)/(ii)
		L*H*	H* ↘	M* ↘
M* ↘	→	L*		

↘: word-final syllable = L

Abbreviations

H	high tone	1	first person	SG	singular
M	mid tone	2	second person	PL	plural
L	low tone	3	third person		
X*	$\underbrace{X \dots X}_{\geq 1}$				

- |  |   |
|--|---|
| <p>1. dījà</p> <p>2. bī<sup>n</sup>ndè</p> <p>3. màā bì<sup>n</sup></p> <p>4. à tààrè</p> <p>5. ā bījāgì</p> | <p>6. máá túúrè</p> <p>7. àà màà túúréndè</p> <p>8. à gàrìbùndé</p> <p>9. nì màā tàj</p> <p>10. nè màà kwáábè</p> |
|--|---|