

## <1>Alice in Wordland (1/1) 7 points

**Task 1.** Now, consider the following two paragraphs. Each of them has a mystery word (termed **word1**, and **word2**), which may have different senses based on its usage in a sentence. Find out the mystery word and its senses from each paragraph.

1) I **word1** that this is an exciting time of my academic journey, but sometimes I **word1** scared of the unforeseen future. Anyway, I need to **word1** approval for my vacation. Then, I have to **word1** to the airport to pick up my sister. Do you want me to **word1** some drinks for you before I leave?

**Answer:** The mystery **word1** is GET

2) This is a **word2** time for Matt to upgrade the walls of his house. But, he needs a **word2** carpenter for this purpose. His **word2** friend Adam, who is also a **word2** person, should be able to help him in this regard. They will have a **word2** time this summer.

**Answer:** The mystery **word2** is GOOD

1 pt for each correct: = 2 pts

**Task 2.** There are *five* instances in paragraph 1) above in which **word1** is used. Pair each instance with another word that could be substituted for **word1** in each instance. Your answer will have *five* distinct words. Do the same for the *five* instances of **word2** in paragraph 2).

Instance	Substitute word1
1	understand
2	become
3	obtain, acquire, gain
4	go
5	buy, obtain, acquire

Instance	Substitute word2
1	right, appropriate
2	skillful
3	dear, faithful, close
4	fine, morally just, honest
5	enjoyable, pleasing, happy, fun

Any of these or others that fit the context. 0.5 x 10 = 5pts

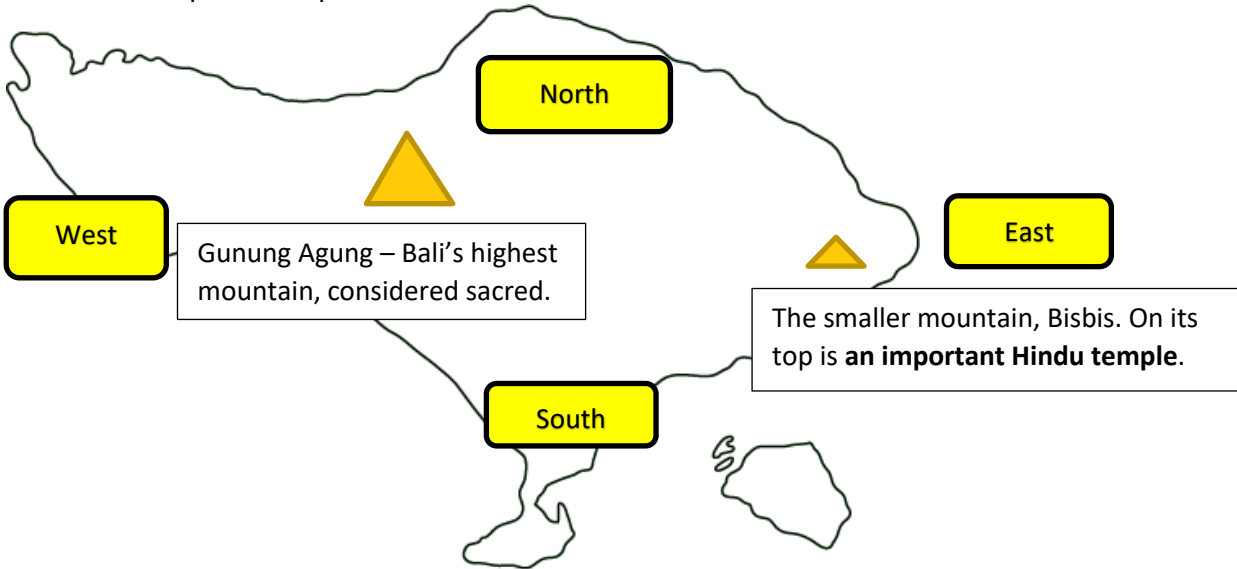
## <2> Finding your bearings in Bali<sup>1</sup> (1/5)

24 points

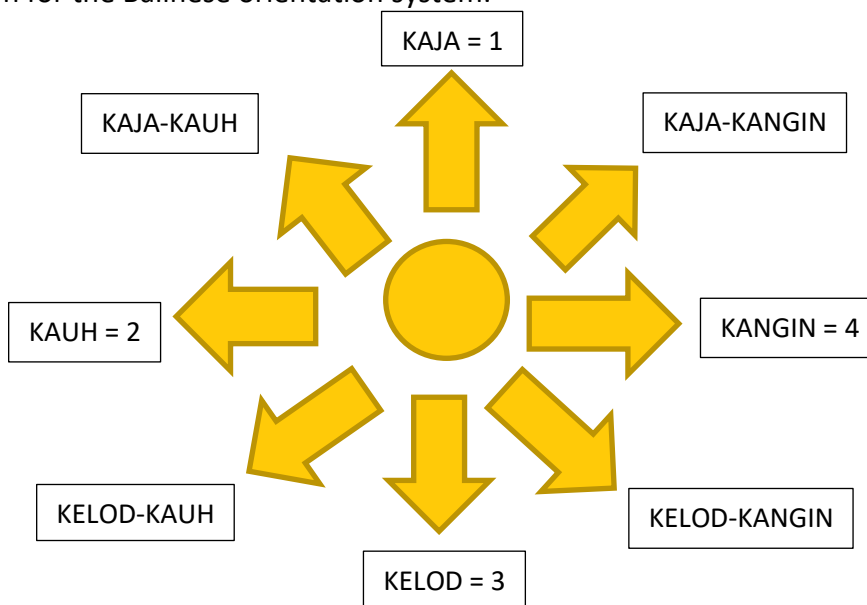
Balinese is one of the languages spoken in Indonesia, mostly on the island of Bali, as well as some of the neighbouring islands. It has just over 3 million speakers altogether.

**[Note for markers / trainers: the Balinese terms do more than just point to orientation in space, they are also intimately linked to the traditional Hindu beliefs of the Balinese people, for example “Kaja” is linked to the god Vishnu and the colour black, while “Kelod” is linked to the god Brahma and the colour red. As a result, Balinese villages have their graveyards always facing the Kelod direction, while temples must face the direction of Kaja!]**

Below is a simplified map of the island of Bali.



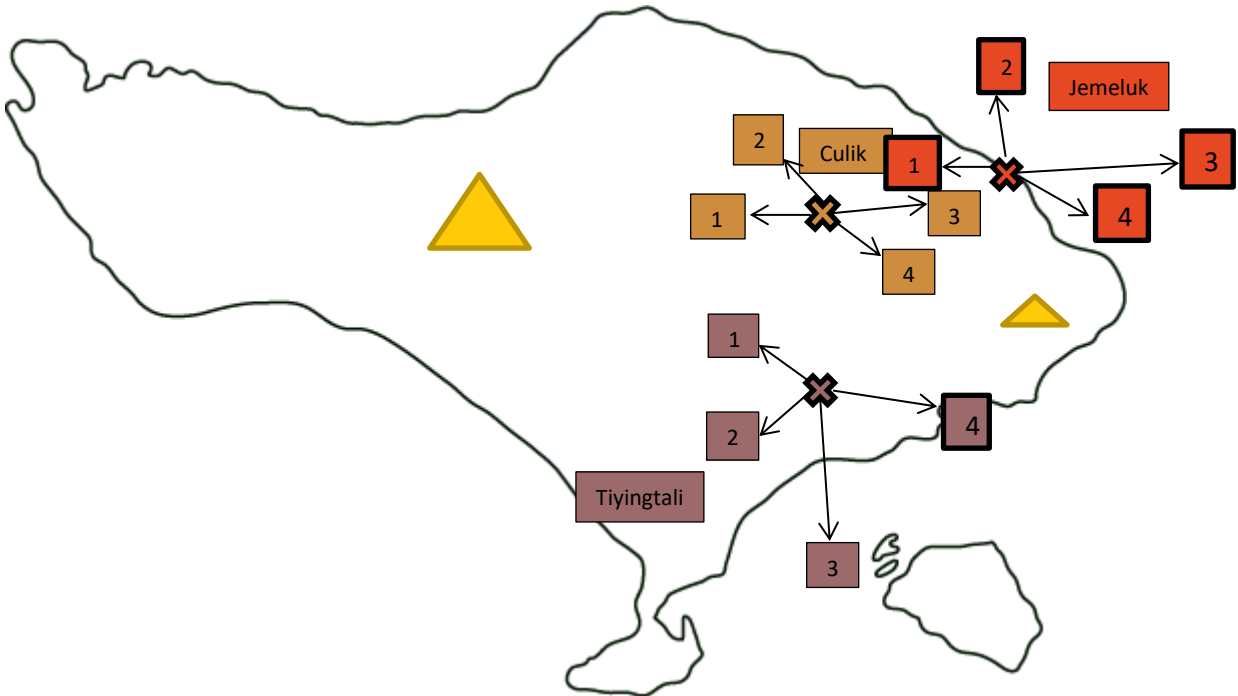
Just as we can use the points of the compass (North – North/East – East etc.), you can use a similar pattern for the Balinese orientation system:



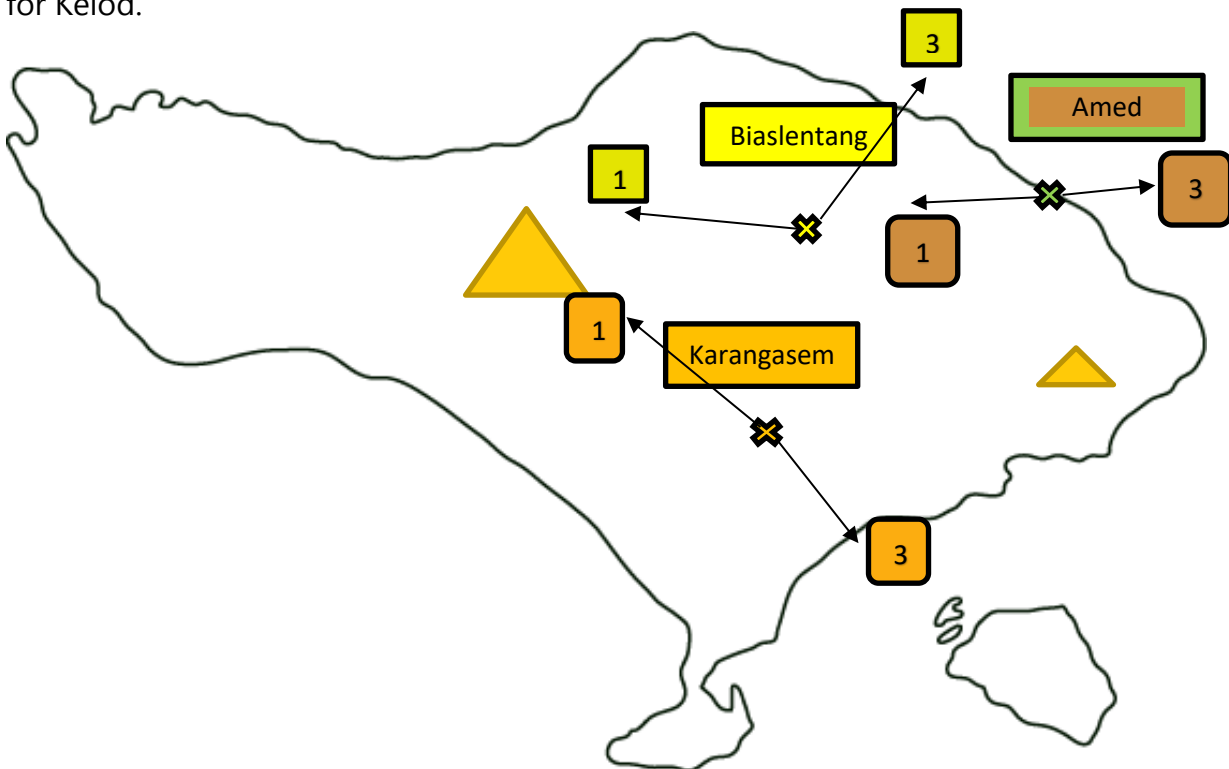
<sup>1</sup> Created by Babette Newsome (NACLO).

Look at the orientations in the villages of Tiyingtali, Culik, and Jemeluk on map below. Each village is marked with an x, and the directions are drawn from the centres of the respective x-es. The directions are represented by numbers: 1 = Kaja, 2 = Kauh, 3 = Kelod and 4 = Kangin.

The length of the arrows is not important – they vary to make the diagram as clear as possible.



**Task 1.** Write & draw in the picture the Kaja and Kelod orientations for the 3 villages marked on the map below: Biaslentang, Karangasem, and Amed. Each village's location is marked with an X. Draw the arrows from the X's centre. You can use the numbers 1 for Kaja and 3 for Kelod.



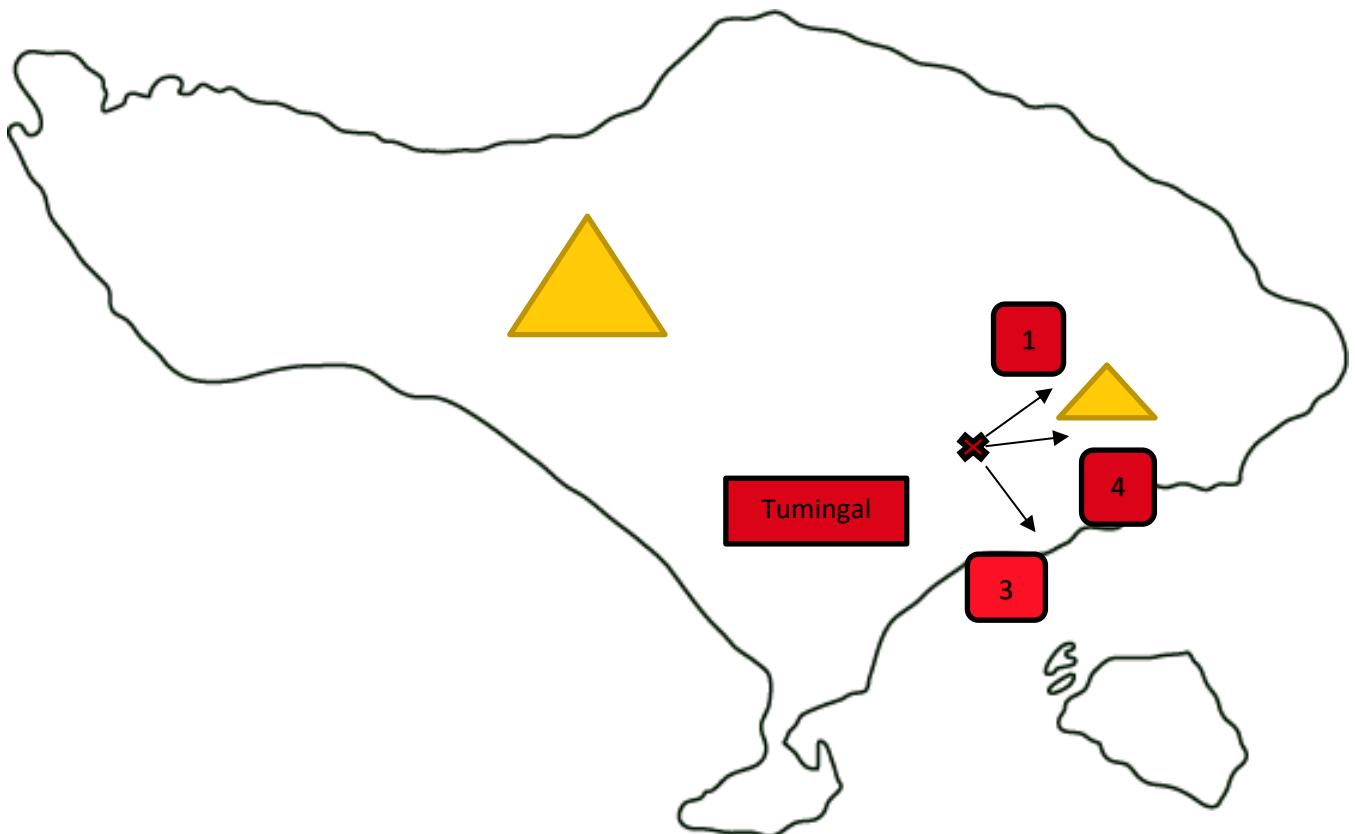
**Notes for markers:**

- *Kaja (1) arrows should be pointing towards the top of Mount Gunung Agung from these locations. Length of arrows is not significant, accept the direction only.*
- *Kelod (3) arrows should be point the shortest distance to the coast / sea from each location. Again, the length of the arrows does not matter, it is the direction that counts.*

6 x 1.5 pt = 9 points

Look at the following examples of Bukit and Bangle villages.

**Task 2:** Fill in the Kaja (1), Kelod (3), and Kangin (4) orientations for Tumingal.

**Notes for Markers:**

- *The villages in the East of Bali cannot see Mount Gunung Agung, as it is too far away. So their Kaja (1) direction points towards the peak of the nearby mountain with important Hindu temple on top, Mount Bisbis instead. So Kaja (1) arrows must point towards the peak of Mount Bisbis.*
- *The other direction rules remain the same: Kelod (3) points in the direction of the shortest distance to the sea / coast from a location; Kangin (4) arrows should point in the direction of the sunrise for each location.*

3 x 2pts = 6 points

**Task 3.** Look at the maps in question a again. Imagine you are in Biaslentang. Which direction is Tiyintali from Biaslentang?

Use one of the eight cardinal directions: Kaja, Kaja-Kangin, Kangin, Kelod-Kangin, Kelod, Kelod-Kauh, Kauh, or Kaja-Kauh.

**Answer:** *Kaja-Kangin*

2 points

**Task 4.** If you are in Tiyingtali what direction is Mt Bisbis?

Again, choose one of the eight cardinal directions: Kaja, Kaja-Kangin, Kangin, Kelod-Kangin, Kelod, Kelod-Kauh, Kauh, or Kaja-Kauh.

**Answer:** *Kaja-Kangin*

2 points

**Task 5.** Identify at least one disadvantage the Balinese orientation system has compared to English' North-East-South-West orientation system?

**Answers (any of the following are acceptable):**

- *The Balinese system is not fixed in the way that the western compass orientation is, which means that every time a Balinese person is in a different location, they need to work out the orientation system for that particular location.*
- *One location's direction does correspond necessarily to another location's.*
- *The nature of the rules underpinning the orientation system in Bali means that sometimes directions / orientations can almost (possibly even completely) overlap, making it possible for one place to be located (in relation to another) in two different locations.*

3 points

**Task 6.** Linguists assumed "Kaja" meant "to mountain or uphill". So the "opposite" of "Kaja", namely "Kelod", must mean "away from the mountain or downhill".

However, this was an incorrect interpretation of "Kelod".

What other translation would you suggest for "Kelod" considering the orientations of all the locations you have seen in this puzzle?

**Answer:**

*Accept all of the following answers (or close variants on these):*

- *Seawards*
- *Coastwards*
- *Nearest coast*
- *Nearest seashore*
- *Most direct line to seashore / sea / coast*

2 points

<3> Are you OK with N'ko?<sup>2</sup> (1/2)**22 points**

The N'ko script was invented (or rediscovered, depending on sources) by Guinean Soulemayne Kanté in 1949, who wanted to challenge the racist assumption that Africans were cultureless because their languages didn't have their own script. Today, N'ko is still used to write Maninka, as well as Dyula and Bambara, which are all languages from the Mande language family spoken across a range of West African nations: Burkina Faso, Gambia, Ghana, Guinea, Ivory Coast, Liberia, Mali, Senegal, and Sierra Leone. These are all tone languages, but the tones (which are usually indicated by diacritics) have been omitted in this problem, to make it simpler. 'ɔ' is a vowel pronounced like the 'o' in 'hot'.

The name of the script in N'ko, which means 'I speak', is ɔɣɣ; its inventor's name is ʌbɪɣ.

Below are 12 regional names given in transcription on the left, and on the right the corresponding names in N'ko, but in a jumbled-up order. The information given under "Description" is just for your interest: it does not relate to the solution.

Name in transcription	Description	Name in N'ko		
1 Kɔnakiri	Conakry – capital of Guinea	ɪɔɔɔʌɔ	A	11
2 Kindia	town in Guinea	ɔɔɪɔɣɔ	B	8
3 N'sérégbédé	city in Guinea	ɪɣɪɪɪɔ	C	5
4 Soromaya	town in Guinea	ɪɔʌɔɔɔ	D	4
5 Faranna	city in Guinea	ɣɪɣɪɣɔɣ	E	1
6 Djigoué	town in Burkina Faso	ɪɔɣɪɪ	F	9
7 Tombouktou	Timbuktu – city in Mali	ɔɔɔɪɪɪɣ	G	10
8 Bisawo	Bissau – capital of Guinea-Bissau	ɪɔɣɔɣɣ	H	2
9 Abidjan	city in Côte d'Ivoire	ɣɔɔɔɔɔ	I	12
10 M'praeso	town in Ghana	ɣɔɔɔɔɔ	J	7
11 Gbésoba	town in Guinea	ɪɔɣɣ	K	14
12 Guekedou	city in Guinea	ʌɣɔɔɔ	L	6
13 Sénégal	country in west Africa	ɣɔɔɔɔɔ	M	13
14 M'bour	city in Senegal	ʌɔɔɔɔɔ	N	3

<sup>2</sup> Source: <https://catalogingafricana.files.wordpress.com/2012/01/guineepapada1.jpg>

**Task 1.** Match up the names 1-14 with their N'ko equivalents A-N by writing the corresponding number in rightmost column in the above table.  $14 \times 0.5 = 7$  points

**Task 2.** Write the following names in transliteration (or in their conventional English spelling)

Name in N'ko	Helpful (?) hint	Transliteration in English
a            𞤲𞤵𞤶	name of language	Djoula / Dyula
b            𞤵𞤹𞤳	name of country	Mali
c            𞤳𞤸𞤸	region of Guinea	Kankan
d            𞤲𞤸𞤹	town in Sierra Leone	N'djala /N'dyala
e            𞤵𞤴𞤵𞤳𞤸	town in Congo	Bandoundou/ Bandundu
f            𞤳𞤸𞤸𞤳	name of language	Maninka
g            𞤳𞤸𞤸𞤴𞤸	name of country	Liberia
h            𞤳𞤸𞤸𞤸𞤸	name of language	Bambaré /Bambara/Banbaré/Banbara
i            𞤳𞤸𞤸𞤸	name of country	Kambiya / Gambia / (allow nb)
j            𞤴𞤴𞤸𞤸 𞤳𞤸𞤸𞤸𞤸	name of country	Bourkinafaso / Burkina Faso

$10 \times 1.5 = 15$

### Key to transliteration

A	B	D	DJ	E	É	F	G	GB	K	KH	L	M	N	O	OU	P	R	S	T	Y	Z	M'	N'
𞤳	𞤴	𞤵	𞤶	𞤷	𞤸	𞤹	𞥀	𞥁	𞥂	𞥃	𞥄	𞥅	𞥆	𞥇	𞥈	𞥉	𞥊	𞥋	𞥌	𞥍	𞥎	𞥏	𞥐

Note (of course) that the writing direction is right-to-left. Mostly the transliteration is simply letter-for-letter, but note the digraphs DJ, GB, KH and OU, and that E and É are different. Note also that DJ and Z, GB and G, and K and KH form pairs, the second in each case being written as the first followed by a dot •. GÉ and GI are written GUÉ and GUI, and the U is not transcribed. Finally, note that the syllabic nasal written as N' or M' depending on the following sound, has the same symbol 𞥑.

Only the last vowel in a sequence of identical vowel sounds is written.

## <4> Intergalactic Grammars (1/4) 42 points

**Task 1A.** Using *only* terms in the SCFG above, translate this English sentence into Turkish.

English: e.g., *A cat chased a turtle (SVO).*

Turkish: *Bir kedi bir kaplumbağa kovaladı (SOV).* 3 points (correct words + correct order)

**Task 1B.** Some of the files contain syntax trees instead of lists of rules. Draw in the missing syntax tree for *bir kız bir kitap okudu*.

Syntax tree for <i>a girl read a book</i> .	Syntax tree for <i>bir kız bir kitap okudu</i> .
<pre> graph TD     S --&gt; NP1[NP]     S --&gt; VP1[VP]     NP1 --&gt; girl[a girl]     VP1 --&gt; V1[V]     VP1 --&gt; NP2[NP]     V1 --&gt; read[read]     NP2 --&gt; book[a book]           </pre>	<pre> graph TD     S --&gt; NP1[NP]     S --&gt; VP1[VP]     NP1 --&gt; girl[bir kız]     VP1 --&gt; NP2[NP]     VP1 --&gt; V1[V]     NP2 --&gt; book[bir kitap]     V1 --&gt; read[okudu]           </pre>

2 points for correct tree & labels

Before you can answer the Klingons, you have to clarify something between the members on board the *U.S.S. Enterprise*. You have already translated something that Elif, who speaks Turkish, told Tovo, who speaks Malagasy, using the following SCFG:

### Turkish-Malagasy SCFG

$S \rightarrow \langle NP_1 VP_2, VP_2 NP_1 \rangle$   
 $VP \rightarrow \langle NP_2 V_1, V_1 NP_2 \rangle$   
 $NP \rightarrow \langle \text{bir kaplumbağa, sokatra} \rangle$   
 $NP \rightarrow \langle \text{bir kedi, saka} \rangle$   
 $V \rightarrow \langle \text{gördü, nahita.} \rangle$   
 $V \rightarrow \langle \text{ısırdı, nanaikitra} \rangle$   
 $V \rightarrow \langle \text{kovaladı, nanenjika} \rangle$   
 $V \rightarrow \langle \text{yedi, nihinana} \rangle$

**Task 2A.** Now, you need to translate the sentence for Elisabeth, who speaks English. Write an SCFG for Malagasy to English that can be used to translate the following sentences:



Sentences
nahita sokatra saka.
nanenjika saka sokatra.
nanaikitra saka sokatra.
nihinana saka sokatra.

**Malagasy-English SCFG**

$S \rightarrow \langle VP_2 NP_1, NP_1 VP_2 \rangle$   
 $VP \rightarrow \langle V_1 NP_2, V_1 NP_2 \rangle$   
 $NP \rightarrow \langle \text{saka, a cat} \rangle$   
 $NP \rightarrow \langle \text{sokatra, a turtle} \rangle$   
 $V \rightarrow \langle \text{nahita, saw} \rangle$   
 $V \rightarrow \langle \text{nanaikitra, bit} \rangle$   
 $V \rightarrow \langle \text{nanenjika, chased} \rangle$   
 $V \rightarrow \langle \text{nihinana, ate} \rangle$

**8 x 1.5 + 12 points****Task 2B.** Provide the English translation of these sentences:

nahita sokatra saka.	A cat saw a turtle.
nanenjika saka sokatra.	A turtle chased a cat.
nanaikitra saka sokatra.	A turtle bit a cat.
nihinana saka sokatra.	A turtle ate a cat.

**4 x 1 = 4 points**

It is time to answer Klag.

**Task 3.** Using the SCFG for English to Klingon, write the Klingon translation of these two English sentences below each.

a. *The leaders know that the Klingons know that the commander learned that a spy saw that the Klingons had a pet*

Saj ghajtaH tlhInganpu' 'e' leghpu' ghoqwl' 'e' ghojpu' la' 'e' SovTah Devwl'pu'.

b. *The pet caused trouble.*

SengtaH Saj.

c. *The U.S.S. Enterprise will battle the Klingons.*

tlhInganpu' ghobrupqa' 'ejDo' 'entepay'.

**NOTE to markers:** Ignore sentence-initial capital letter and fullstop.

Correct words in correct order for full marks

a. 13 points

b. 3 points

c. 5 points



<5> *This and that* in Ngarnka**25 points**

(1) Identify the suffixes that indicate the **NUMBER** of the demonstrative.

(Write *none* if there is no suffix for a given number.): (3 x 0.5 = 1.5 points)

SINGULAR	none
DUAL	wulu
PLURAL	kuny

(2) Identify the roots that indicate the **DISTANCE** of the demonstrative. (2 x 0.5 = 1 point)

PROXIMAL	a
DISTAL	yangka

**GENDER** is marked in more than one place on the demonstratives: in prefixes and suffixes.

(3) Identify all forms of the prefixes that indicate the **GENDER (OR CLASS)** of the demonstratives. (8 x 0.5 = 4 points)

MASCULINE	in	ni
FEMININE	arn	rna
VEGETABLE	am	ma
NEUTER	arn	rna

(4) Identify the suffixes that indicate the **GENDER** of the demonstratives. (4 x 0.5 = 2 points)

MASCULINE	ja
FEMININE	a
VEGETABLE	ma
NEUTER	ja

(5) What is the feature that determines whether the **GENDER** suffix is present or not, and what feature value causes the **GENDER** suffix to be present?

Feature	<b>NUMBER</b>
Feature value	PLURAL

(6) Give the translations of the following demonstratives. (3 x 0.5 = 1.5 point)

'those two (yams)'	ma-yangka-wulu
'this (woman/tree)'	arn-a
'those (men)'	ni-yangka-kuny-ja

**Part B: ERGATIVE and DATIVE demonstratives**

(7) One of the **NUMBER** suffixes is different from Part A. Identify the suffixes in this new data that indicate the **NUMBER** of the demonstrative including the new suffix. (3 x 0.5 = 1.5 points)

SINGULAR	none
DUAL	wuli
PLURAL	kuny

(8) One of the **GENDER** prefixes is different from Part A. Identify the prefixes in this new data that indicate the **GENDER** of the demonstrative including the new prefix. (2 x 0.5 = 1 point)

MASCULINE	ni
FEMININE	nga

(9) One of the **GENDER** suffixes is different. Identify the suffixes in this new data that indicate the **GENDER** of the demonstrative including the new suffix. (2 x 0.5 = 1 point)

MASCULINE	<i>i</i>
FEMININE	<i>a</i>

Like **NUMBER**, **CASE** is marked in more than one place on the demonstratives: in prefixes and suffixes.

(10) Identify the prefixes that indicate the **CASE** of the demonstratives. (3 x 0.5 = 1.5 points)

ABSOLUTIVE	none
ERGATIVE	<i>nk</i>
DATIVE	<i>nak</i>

(11) Identify the suffixes that indicate the **CASE** of the demonstratives. (6 x 0.5 = 3 points)

ABSOLUTIVE	none	none
ERGATIVE	<i>ni</i>	<i>ji</i>
DATIVE	<i>nka</i>	<i>ja</i>

(12) What is the feature that determines which **CASE** suffix is used? 1 point

Feature	<b>NUMBER</b>
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(13) Give the translations of the following demonstratives. (3 x 2 = 6 points)

'this (man) did it'	<i>ni-nk-a</i>
'to these two (women)'	<i>nga-nak-a-wuli-ja</i>
'to these (men)'	<i>ni-nak-a-kuny-i-nka</i>

<6> A Menya Puzzle<sup>3</sup> (1/2)

30 points

Task 1. Match up the Menya words and phrases to their well-formed English translations.

Menya		English
1. <i>ai</i>	p	a. a very large tree
2. <i>tāŋga</i>	k	b. an important person
3. <i>yä naqänänjä</i>	a	c. The äkewä is not a large bird.
4. <i>ymeqä wāŋqä</i>	l	d. Cassava plant
5. <i>moni naqāŋganji</i>	o	e. long ago
6. <i>ämaqä naqä</i>	b	f. I wonder if this is a ship or a boat.
7. <i>yāmbuayä</i>	d	g. man
8. <i>ymeqä qokä</i>	n	h. that
9. <i>äkewi yŋjä naqä hmanji</i>	c	i. sweet potato, yam
10. <i>aŋga</i>	e	j. That is whose house?
11. <i>yä aŋä</i>	m	k. now
12. <i>buayä</i>	i	l. a small child
13. <i>ämaqä qokä</i>	g	m. a house made of wood
14. <i>tä</i>	q	n. son
15. <i>i</i>	h	o. Fines are big these days.
16. <i>tä sipqäti botqä äwitäti</i>	f	p. done
17. <i>i täqueqä äŋi?</i>	j	q. this

17 points (17 x 1)

Task 2. Translate into Menya. (6 points)

a.	'large'	<i>naqä</i>	1pt
b.	'small stick' or 'small piece of wood'	<i>yä wāŋqä</i> (tree/wood small)	2pts
c.	'the boat'	<i>botqi</i> ( <i>botqä+i</i> )	1pt
d.	'a very small bird'	<i>yŋjä wāŋqänänjä</i>	2 pts

<sup>3</sup> iProblem Author: Aleka Akoyunoglou (Blackwell). Reference: Whitehead, Carl (2004). *A Reference Grammar of Menya, an Angan language of Papua New Guinea*, Ph.D. Dissertation, U of Manitoba.



**Task 3.** Translate into English. (6 points)

a.	<i>aṅä naqänäṅä</i>	<i>a very large house</i>	2pts
b.	<i>iṅga</i>	<i>then (that + TIME)</i>	2pts
c.	<i>hikṅaṅga</i>	<i>as a youth (while a young man)</i>	2pts

Note: *hikṅä* means 'lad' or 'young man'

**Task 4.** Within one of the multiword Menya phrases in the data is a single word typically used by Menya speakers to mean 'husband.' Which word is it? (1 point)

*qokä*