

<A> Know Your Place¹ (1/3)**15 Points**

Wiradjuri is a language of central NSW. Many placenames in official use derive from a Wiradjuri placename, or at least from a Wiradjuri word, but are spelled in haphazard ways from when they were originally anglicised and written down in the 19th century.

Wiradjuri has a standard orthography, based on a missionary orthography of the late 1830s, but usually when a placename entered official records it did not conform to the orthography. Nevertheless, going by the pronunciation, the placenames can be matched with Wiradjuri words.

The name of the language Wiradjuri has been spelled many ways, and in the standard orthography it would be *Wiradhuray*; from *wiray* 'no, not'.

Historical records often record more variant spellings, for example:

Jerilderie 'a reedy place' Henry Withers in Smyth III, 219

Jereeldrie 'place of reeds' JFH Mitchell p23 = *Science of Man* 8.4,15

Jerildery from *jee-reel'*—*ther'ree* 'place of reeds' C Richards *Science of Man* 5.11,181

PART A. Here are some NSW placenames of Wiradjuri origin.

1. Balbudgerie
2. Berry Jerry
3. Bindogundra ~ Bindogandri
4. Bulgandramine
5. Bulgandry
6. Cagildry ~ Cajildry ~ Cadduldury
7. Coradgery
8. Cootamundra
9. Douwingerie
10. Euwarderry
11. Geraldra
12. Gobondery (Tullamore district)
13. Goobothery (Tullibigeal district)
14. Jerilderie
15. Mullengudgery
16. Mullion (a creek: Wellington district; Yass district)
17. Mulyandry (~ Mylandra) (Grenfell district)
18. Mungery
19. Narrandera
20. Teridgerie
21. Uardry
22. Ulandra
23. Wallandry
24. Yarranjerry
25. Yullundry

¹ Created by David Nash (ANU).

<A> Know Your Place (2/3)**Your tasks:**

1. Match the above placenames with these Wiradjuri vocabulary items (lexemes or head words). Place the identifying number for each placename row in the row of the following table (in the right hand column) where the vocabulary item is a basis of the placename. Note that a placename can match with more than one vocabulary item, and a vocabulary item can match more than one placename.

Wiradjuri	meaning	matches
<i>balgang, barrgan</i>	boomerang	4, 5
<i>barrbay</i>	rock wallaby	1
<i>bindugaan</i>	mussell, shellfish	3
<i>birri</i>	white box tree, <i>E. albens</i>	2
<i>dari</i>	old stumps of grass	20
<i>dhawiny</i>	stone axe	9
<i>dyiriil</i>	bulrushes, reed, reed spear	11, 14
<i>gadhal</i>	smoke	6
<i>garray</i>	sand	7
<i>guba, gubang</i>	Cooba, Coobah, Native Willow; hickory tree	12, 13
<i>gudhamang</i>	tortoise	8
<i>malangga</i>	little girl	15
<i>malyan</i>	eaglehawk	16, 17
<i>mayiny</i>	people, person	4
<i>muwiny</i>	black swampy soil	18
<i>ngarran</i>	hungry	19
<i>ngarrang, nharrang</i>	frill-necked lizard	19
<i>walang</i>	stone	23
<i>yarrany</i>	Yarran, small tree sp., <i>Acacia homalophylla</i>	24
<i>yulang</i>	small shrub sp.	22, 25
<i>yuwarr</i>	yellow box tree	10, 21

13.5 points (0.5 for each of 27 answers)

<A> Know Your Place (3/3)

PART B.

Most of the placenames in Part A have the same suffix (word ending), with a meaning corresponding to English 'with'. The suffix varies in form. Either it begins with (i) the equivalent of *dy* or *dh* (pronounced in English as the consonants in *judge*), or else it begins with (ii) *d* (pronounced in English as *d* in *dog*).

2. What determines whether the suffix begins with variant (i) or variant (ii)?

variant (i), *dy* or *dh*: after a vowel or *y* or *ny*

variant (ii), *d*: after *l* or *n* or *ng* (and *ng* changes to *n*)

(if someone gives an answer such as (i) after a vowel or palatal/laminal consonant and (ii) elsewhere OR (ii) after an apical/coronal consonant (since *ng* --> *n*) and (i) elsewhere then full marks)

1.5 points for correct answer

** Many Bulgarians (1/2)****10 Points**

Here are listed some Bulgarian noun phrases in the form quantifier (numeral or “many”) + noun.

Note: Bulgarian is normally written in the Cyrillic alphabet. For this problem, all Bulgarian words have been transliterated. As for pronunciation, *č* is like the “ch” in “chest”, *š* is like the “sh” in “shoe”, *c* sounds like “ts”, and *ě* is a short vowel like the “a” in “patrol”. Other letters are pretty much like in English.

dvama učenci	<i>two students</i>
devet garderoba	<i>nine wardrobes</i>
mnogo učenci	<i>many students</i>
edin sanděk	<i>one chest</i>
tri sanděka	<i>three chests</i>
mnogo sanděci	<i>many chests</i>
devetima balěci	<i>nine morons</i>
mnogo garderobi	<i>many wardrobes</i>
šestima programisti	<i>six programmers</i>
četiri kapaka	<i>four covers</i>
mnogo programisti	<i>many programmers</i>
trima čistači	<i>three cleaners</i>
edin balěk	<i>one moron</i>

Task 1: In the table below, translate these English phrases into Bulgarian. (Write each word in a separate cell in the table):

ENGLISH	BULGARIAN	
1 six covers	šesti	kapaka
2 many morons	mnogo	balěci
3 four cleaners	četirima	čistači
4 many covers	mnogo	kapaci
5 one student	edin	učenik
6 two chests	dva	sanděka

3 points: 0.25 for each correct word. Note marking of animate with -ma on number word (not on 'one' or 'many') and single form for plural noun. Inanimate nouns have plural form (ending in 'i' after *mnogo* 'many' but another form ending in 'a' after a plural number word. Addition of -i causes final k of basic word to be palatalized to 'c'.

** Many Bulgarians (2/2)**

Here are some Bulgarian sentences written in the standard Cyrillic script and the translated equivalents (in no particular order) in English.

- | | | | | |
|----|-----------------------------|---|---|-----------------------------|
| 1 | Вещерът застреля маймуната. | I | A | Your son watched you. |
| 2 | Камилата вървя. | G | B | The girl bit the cat. |
| 3 | Момичето ухапа котката. | B | C | You cut yourself. |
| 4 | Вещицата прокле котката. | F | D | The cat scratched you. |
| 5 | Котката прокле твоя син. | H | E | You shot the son. |
| 6 | Ти застреля сина. | E | F | The witch cursed the cat. |
| 7 | Котката те одраска. | D | G | The camel walked. |
| 8 | Ти скочи. | K | H | The cat cursed your son. |
| 9 | Твоят син те гледа. | A | I | The wizard shot the monkey. |
| 10 | Вещерът ухапа една камила. | L | J | The son cut your baby. |
| 11 | Ти се поряза. | C | K | You jumped. |
| 12 | Синът поряза твоето бебе. | J | L | The wizard bit a camel. |

Task 2: Match the sentences by writing the letter corresponding to the correct English translation to the right of each Bulgarian sentence.

6 points: 0.5 for each correct answer

Task 3: Translate this Bulgarian sentence into English:

13	Ти прокле един вещер.	You cursed one wizard. OR You cursed a wizard.
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1point:

<C> Basque to Euskara (1/3)**20 points**

The Basques call themselves Euskaldun, a term that means ‘Euskara speaker.’ Euskara is spoken by a population of around 700,000 people. When locating Euskara on the world’s map, Basques point to those areas where Euskara is most likely to be used as the primary language. In this sense of geographical location, Euskara is spoken mostly within the Basque Country (or Euskal Herria in Euskara). The Basque Country is found in the western Pyrenees, a land within Spanish borders to the West, and within French borders to the East.

Task 1

Read the following sentences, shown in Basque and in well-formed translations into English.

1	Emakumeak gizona ikusi du.	‘The woman has seen the man.’
2	Zuk umea ikusi duzu kalean.	‘You (to <i>one</i> person) have seen the child in the street.’
3	Non ikusi duzu umea?	‘Where have you seen the child?’
4	Nork ikusi du umea kalean?	‘Who has seen the child in the street?’
5	Umeak ez du gizona ikusi.	‘The child has not seen the man.’
6	Emakumeak liburua irakurri du.	‘The woman has read the book.’
7	Umea etorri da.	‘The child has come/arrived.’
8	Umea kalean erori da.	‘The child has fallen in the street.’
9	Igela agertu da.	‘The frog has appeared.’

Your task is to translate the following sentences on the basis of the sentences in (1)-(9).

(a) into Basque: (Write one word in each cell.)

10	The woman has come.	Emakumea	etorri	da.	
11	The man has seen the woman.	Gizonak	emakumea	ikusi	du.
12	The book has not arrived.	Liburua	ez	da	etorri.

6 points: 2 points for each correct sentence (all parts of sentence must be correct) (ignore punctuation)

(b) into English:

13	Nork ikusi du gizona?	Who has seen the woman?
14	Nor agertu da kalean?	Who has fallen in the street?

4 points: 2 for each correct sentence (all parts must be correct)

Task 2: Now consider the following additional data.

15.	Gizonak umeari liburua eman dio.	‘The man has given the book to the child.’
16.	Irakasleak umeari liburua irakurrarazi dio.	‘The teacher has made the child read the book.’

<C> Basque to Euskara (2/3)

Your task is to translate the following sentences:

(a) into English:

17. Emakumeak umeari etorrarazi dio.	The woman has brought the child. OR The woman has made the child come.
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2 points (if all correct)

(b) into Basque (one word to a cell)

18. The child has given the frog to the woman.	Umeak	emakumeari	igela	eman	dio.
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3 points if all words correct and in this order.

Task 3

Basque is a free word order language in the sense that all the phrases shown in Set A below translate into English as 'the child has fallen in the street'.

Set A

kalean umea erori da
 umea erori da kalean
 kalean erori da umea
 erori da umea kalean
 erori da kalean umea

By contrast, all the phrases in Set B below are considered ungrammatical. That is, a native speaker of Basque would consider these to be unacceptable sentences.

SET B

*erori umea da kalean
 *erori kalean da umea
 *erori umea kalean da

(a) Comparing the data in sets A and B, your task is to identify and formulate the restriction which applies to the word order options available in Basque. You may refer to the words *du*, *da* and *dio* as 'auxiliary' and words like *eman*, *erori*, *ikusi* etc. as 'verbs'.

The auxiliary must always immediately follow the verb

2 points: (Any formulation of this gets full marks.)

<C> Basque to Euskara (3/3)

(b) Looking back at the sentences in (1) to (9), are there any sentences that the restriction you have formulated in (a) above would wrongly identify as unacceptable? **YES** (Answer by Yes/No)

1 point

(c) Justify your answer to (b).

Sentence (5) would be unacceptable because the auxiliary *du* does not follow the verb *ikusi*

2 points: if sentence (5) is identified and why it is relevant. (Only 1 point if only sentence 5 is identified)

<D> **Magik Yup'ik² (1/1)****30 Points**

Central Alaskan Yup'ik belongs to the Eskimo-Aleut language family. It is spoken in western and southwestern Alaska by around 20,000 speakers. Two other Yup'ik languages are still spoken: the Alutiiq language and the Siberian Yupik .

Yup'ik people have an interesting concept when it comes to counting – the words for the numbers can be broken down into meaningful parts which may be related to their body parts. For example, the word for five, *talliman*, means *one arm* and the word for six, *arvinlegen*, means *cross over*, as you need to change hand to go on counting. Words for numbers in various languages can be represented in a different base (for example, in French, 70 is *soixante-dix* = (60+10), 80 is *quatre-vingt* = (4 x 20) while 99 is *quatre-vingt dix-neuf* = (4 x 20) + (10 + 9).

Task 1: On the basis of these Yup'ik numbers: 13 *qula pingayun*, 18 *akimiaq pingayun*, 60 *yuinaat pingayun*, what is the numerical value expressed by *pingayun*? 3

1 point

The Yup'ik people often include geometry in their Yup'ik parkas, often having border patterns. One such pattern comes in the form of a 3 by 3 square:

4	9	2
3	5	7
8	1	6

A magic square can be constructed by placing the digits 1 to 9 within the cells such that the sum of all the digits in every row, column, and diagonal is the same.

Task 2: Fill in the magic square above using digits between 1 and 9.

21 points: 3 pts for each of 7 correct answers

To help you fill in the magic square, the following clues are given in Yup'ik. The numbers are spelt (*i.e.* 123 is spelt as “One hundred and twenty three” in English).

Across		Down	
A	Yuinaat yuinaq cetaman qula malruk	A	Yuinaat yuinaq atauciq akimiaq pingayun
B	Yuinaat akimiaq malruk akimiaq malruk	B	Yuinaat yuinaak malruk yuinaat malrunglegen qula atauciq
C	Yuinaat yuinaak malruk akimiaq atauciq	C	Yuinaat qula pingayun akimiaq atauciq

Task 2: In Yup'ik, write the number given in A-Diagonal (Top left cell to Bottom right cell, shaded). Yuinaat yuinaq malruk akimiaq atauciq.

8 points (if all correct)

² Problem by Kai Low Rui Hao (UKLO)

ADDITIONAL EXPLANATION:

Candidates should recognize this as a mathematics problem and take into consideration the possibility of the spelling of numbers being represented in a different base (for example, in French, 99 is *quatre-vingt dix neuf*, which translates to $4 \times 20 + 10 + 9$).

There is only one possible type of 3-by-3 magic square, although there are 8 distinct configurations that stems from the one type due to rotation and reflection. These permutations are avoided due to the presence of the Yup'ik cross-number puzzle clues.

Since there are 9 digits, the numbers can be arranged via this formula:

N-1	N+4	N-3
N-2	N	N+2
N+3	N-4	N+1

This formula takes into consideration 9 consecutive numbers, as well as the fact that the sum of every row, column, and diagonal is the same i.e., $3n$. Since the sum of each column is $3n$, the sum of three columns is $9n$. The sum from 1 to 9 is 45. Hence $9n = 45$, leaving us with $n=5$.

4	9	2
3	5	7
8	1	6

The answer to Task 1 is as above. Candidates may in the process arrive at the other 7 possible combinations. These permutations will be eliminated when checked against the yup'ik hints.

Since the question provided 2D as a 3-digit number that starts with 9, and that all numbers in the clues are 3-digit, and that all yup'ik numbers begin with Yuinaat, candidates have to consider that Yup'ik may be using a base larger than 10. The most common, in fact, is the Vigesimal system, which is base 20. This is also practical based on the background provided in the question – Yup'ik people based their concept of counting on body parts (20 fingers + toes).

Despite the various permutations, candidates should be able to arrive at 2D, which is 951. Further attempts at solving the spelling will reveal that $951 = (20 \times 20 \times 2) + (20 \times 7) + (10 + 1)$. This is true to the base 20 system. Arriving at this conclusion will reveal:

1. Suffix –k: multiply by 2/double/to do with two (a dual number)
2. Suffix –t: multiply by more than 2 (a plural number)
3. Suffix –q: the root suffix.

If the word ends in suffix –q, it signifies to the candidate that the subsequent number should be an addition and not a multiplication.

Candidates can then work on 3A, which is the next biggest number with $20 \times 20 \times 2$. Hence, the number, which is the second biggest after one starting with “9”, should start with “8”. This will lead to 3A being 816. Candidates can then associate *akimiq atauciq* to 16. From the 2D,

atauciq = 1, hence *akimiq* is 15. This is a reasonable and valid guess since Yup'ik people pay attentions to numbers based on the hands and feet.

Next, refer to 3D where candidates can make out $(20 \times (10+?)) + 16$. Given that diagonal also sum up to 15, we can gather 2 and then 7 from it being the remaining cell in 3D. Hence 3D is 276 and that it is $(20 \times (10+3)) + 16$.

Knowing that *qula* = 10, *akimiq* = 15, and that *malruk* = 2, *pingayun* = 3, we will be able to solve most of the magic square. The other number not mentioned is *cetaman* = 4.

Task 2: *Yuinaat yuinaq malruk akimiq atauciq.*

A-Diagonal is 456 and can be expressed in Yup'ik spelling as $(20 \times 20) + (20 \times 2) + 16$.

However, notice from other clues that numbers below 800 are not spelled in this manner but more of $(20 \times 22) + 16$. Hence the number will be spelled according to $(20 \times (20 + 2)) + 16$.

<E> On the right track³ (1/1)

25 points

A. ஜூரோங் கிழக்கு	F. இயோ சூ காங்	K. சுவா சூ காங்	P. நியூட்டன்	U. புக்கிட் பாத்தோக்
B. அங் மோ கியோ	G. உட்லண்ட்ஸ்	L. செம்பாவாங்	Q. நொவீனா	V. மரீனா பே
C. அட்மிரல்டி	H. காதிப்	M. டோபி காட்	R. பிரேடல்	W. மார்சிலிங்
D. ஆர்ச்சர்ட்	I. கிராஞ்சி	N. தோ பாயோ	S. பீஷான்	X. யீஷான்
E. இயூ டீ	J. சாமர்செட்	O. நகர மண்டபம்	T. புக்கிட் கொம்பாக்	Y. ராஃபிள்ஸ் பிளேஸ்

1	Jurong East	6	Kranji	11	Yishun	16	Braddell	21	Somerset
2	Bukit Batok	7	Marsling	12	Khatib	17	Toa Payoh	22	Dhoby Ghaut
3	Bukit Gombak	8	Woodlands	13	Yio Chu Kang	18	Novena	23	City Hall
4	Choa Chu Kang	9	Admiralty	14	Ang Mo Kio	19	Newton	24	Raffles Place
5	Yew Tee	10	Sembawang	15	Bishan	20	Orchard	25	Marina Bay

Your task: Pair the Tamil names A-Y with the English names 1-25, by writing the number under the corresponding letter.

A	B	C	D	E	F	G	H	I	J	K	L	M
1	14	9	20	5	13	8	12	6	21	4	10	22
N	O	P	Q	R	S	T	U	V	W	X	Y	
17	23	19	18	16	15	3	2	25	7	11	24	

1	A	Jurong East	6	I	Kranji	11	X	Yishun	16	R	Braddell	21	J	Somerset
2	U	Bukit Batok	7	W	Marsling	12	H	Khatib	17	N	Toa Payoh	22	M	Dhoby Ghaut
3	T	Bukit Gombak	8	G	Woodlands	13	F	Yio Chu Kang	18	Q	Novena	23	O	City Hall
4	K	Choa Chu Kang	9	C	Admiralty	14	B	Ang Mo Kio	19	P	Newton	24	Y	Raffles Place
5	E	Yew Tee	10	L	Sembawang	15	S	Bishan	20	D	Orchard	25	V	Marina Bay

25 points: 1 pt for each correct

³ Created by Kai Low Rui Hao for Singapore Linguistics Olympiad & elaborated by Dick Hudson (UKLO).