

Your name:

# The UK Linguistics Olympiad 2017



## Problem 2. Inuit writing (5 marks)

Inuktitut is a language spoken by the Inuit people in the north of Canada which has an interesting writing system that was invented by missionaries in the nineteenth century. As you will see from the examples, each character tends to stand for a syllable rather than for a single consonant or vowel sound.

The table shows some names, including some Inuit mythical creatures, and a few familiar words that we have borrowed. Your task is to fill the empty cells. (A cell with a line through it counts as full.) If this is impossible, give a brief explanation (e.g. 'No X', if it's impossible because you need an X and there isn't one). 'q' is a k-like sound that we don't use.

Inuktitut writing	sounds	meaning	Inuktitut writing	sounds	meaning
ᑦᑭ	miki	'Mickey'	ᐃᐅᐅᑎᑕᑦ	inuktitut	'Inuktitut'
ᑭᓄ	sara	'Sarah'	ᐃᐅᐃᑦ	inuit	'Inuit'
ᑭᑦ	sam	'Sam'	ᑭᑭᑭᑭᑭ	qayaq	'kayak'
ᑭᑦ	sami	'Sammy'	ᐃᑭᑭ	iglu	'igloo'
ᐃᐅ	ana	'Anna'	ᑕᑦ	_____	1
ᐃᑭ	una	'Una'	ᑕᑕ	_____	2
ᑕᑦ	tam	'Tam'	ᑭᑭ	_____	3
ᑎᑦ	tim	'Tim'	4	qalupalik	Qalupalik <sup>1</sup>
ᐅᐅᑭᑭ	nanuq	'Nanook'	5	kigatilik	Kigatilik <sup>2</sup>
ᑭᑕ	sali	'Sally'	6	tariaksuq	Tariaksuq <sup>3</sup>
ᐃᑕᑦ	pit	'Pitt'	7	_____	Tom
ᑭᑭᑭ	lukas	'Lucas'	8	_____	Anne
ᑦᐃᑕ	mia	'Mia'	9	_____	Leela
ᐃᑕᑕ	ava	'Ava'	10	_____	Dan
ᐅᐅᑕᑕᑦ	nunavut	'Nunavut'	11	_____	Jess

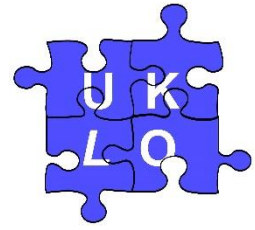
<sup>1</sup> A sea creature with long hair and green skin

<sup>2</sup> A violent demon

<sup>3</sup> An invisible humanoid creature

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## Solution and marking.

Scoring: max 25

- #1-3: 2 points for each correct cell. 1 for half right (e.g. ...at, Lu...)
- #4-10: 1 point for each correct character or explanation (e.g. 'no O').
  - Some characters are compounds, with a superscript. Treat as a single character.
  - Strictly speaking, the answer to #8 is a single character but we can assign a separate point for the the superscript.
- #11: by mistake, this was blank in early versions of the test paper, so give everyone 1 point, regardless of performance.
- Score positively – 1 for each target word, ignore extra non-target words
- Score generously – if different scores are possible, choose the highest.
- Accept
  - any size of Inuktitut characters
  - non-English spellings e.g. Lili.

Inuktitut	sounds	meaning	Inuktitut	sounds	meaning	points
ᓂᓄ	miki	'Mickey'	ᓄᓄᓂᓄ <sup>c</sup>	inuktitut	'Inuktitut'	
ᓂᓄ	sara	'Sarah'	ᓄᓄᓄ <sup>c</sup>	inuit	'Inuit'	
ᓂᓄ	sam	'Sam'	ᓄᓄᓂᓄ <sup>b</sup>	qayaq	'kayak'	
ᓂᓄ	sami	'Sammy'	ᓄᓄᓂᓄ	iglu	'igloo'	
ᓄᓄ	ana	'Anna'	ᓄ <sup>c</sup>	_____	1 Pat	2
ᓄᓄ	una	'Una'	ᓄᓄ	_____	2 Lily	2
ᓄᓄ <sup>c</sup>	tam	'Tam'	ᓄᓄ	_____	3 Lucy	2
ᓄᓄ <sup>b</sup>	tim	'Tim'	4 ᓄᓄᓄᓄ <sup>b</sup>	qalupalik	Qalupalik	4
ᓄᓄᓄ <sup>b</sup>	nanuq	'Nanook'	5 ᓄᓄᓄᓄ <sup>b</sup>	kigatilik	Kigatilik	4
ᓄᓄ	sali	'Sally'	6 ᓄᓄᓄᓄᓄᓄ <sup>b</sup>	tariaksuq	Tariaksuq	4
ᓄᓄ <sup>c</sup>	pit	'Pitt'	7 no O	_____ Tom		1
ᓄᓄᓄ <sup>b</sup>	lukas	'Lucas'	8 ᓄᓄ <sup>a</sup>	_____ Anne		2
ᓄᓄ	mia	'Mia'	9 ᓄᓄ	_____ Leela		2
ᓄᓄ <sup>a</sup>	ava	'Ava'	10 no D	_____ Dan		1
ᓄᓄᓄ <sup>c</sup>	nunavut	'Nunavut'	11 no J or E	_____ Jess		1

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## Commentary

Here's a convenient summary of the Inuktitut writing system (from Omniglot.com):

		p	t	k	g	m	n	s	l	j	v	r	q	ng	+
		[p]	[t]	[k]	[ɣ]	[m]	[n]	[s]	[l]	[j]	[v]	[ʁ]	[q]	[ŋ]	[+]
i [i]	△	∧	∩	ρ	ʀ	┌	σ	ʀ	┌	┐	∧	∩	ϕ	ϕ	┌
ii/ī [i:]	△̇	∧̇	∩̇	ρ̇	ʀ̇	┌̇	σ̇	ʀ̇	┌̇	┐̇	∧̇	∩̇	ϕ̇	ϕ̇	┌̇
u [u]	▷	>	⊃	ɔ	∪	└	β	ʀ	└	┘	∨	∩	ϕ	ϕ	└
uu/ū [u:]	▷̇	>̇	⊃̇	ɔ̇	∪̇	└̇	β̇	ʀ̇	└̇	┘̇	∨̇	∩̇	ϕ̇	ϕ̇	└̇
a [a]	◁	<	⊂	ɔ	∪	└	ε	ʀ	└	┘	∨	∩	ϕ	ϕ	└
aa/ā [a:]	◁̇	<̇	⊂̇	ɔ̇	∪̇	└̇	ε̇	ʀ̇	└̇	┘̇	∨̇	∩̇	ϕ̇	ϕ̇	└̇
		<	⊂	ɔ	∪	└	ε	ʀ	└	┘	<	∩	ϕ	ϕ	└
	-h	-p	-t	-k	-g	-m	-n	-s	-l	-j	-v	-r	-q	-ng	-+

As you can see, there's a great deal more to the system than competitors need to discover in order to solve the problem:

- It's basically a syllabary, so most characters correspond to a consonant followed by a vowel.
- There's a very limited range of consonants and vowels: 14 consonants and three vowels (which can be either long or short).
- The long vowels are shown by a raised dot which doesn't appear in any of the test words.
- Each consonant has a different shape which appears consistently in all syllables. (Exceptionally, k and n have the same shape but in different orientations.)
- Vowels are distinguished by the orientation of this shape.
- When a consonant is at the end of a syllable, without a following vowel, it is written as a superscript (shown in the bottom rows).
- When a vowel has no preceding consonant, it is shown as a triangle (as in the second column).