



United Kingdom Linguistics Olympiad 2025

Round 1 Paper - Intermediate Level

Welcome to UKLO, the examination of wondrous languages. Every year we give out a new challenge to students to test their language and problem-solving skills. Can you figure out how these languages work?

There are four problems in the Intermediate competition:

- Q4: **Icelandic** – *Michael Salter*
- Q5: **Armenian** – *Michael Salter*
- Q6: **Colours** – *Simi Hellsten & Andrew Lamont*
- Q7: **Proto-Basque** – *Arul Kolla*

Instructions:

Please make sure you have the following materials:

- 1x Cover Sheet (this sheet); 1x Examination Paper (Questions 4 – 7);
- 1x Answer Sheet (2 pages);
- 2-3 blank sheets for rough working.

Once the examination is over, **return all sheets to your teacher**, including any sheets with your answers on. You are not permitted to remove any materials from your classroom.

Please **write your full name** on the top of every page of the Answer Sheet. If you make a mistake, put a line through your whole answer (e.g. ~~wrong answer~~).

If you need more blank paper for working, it must be provided. If you need to write some of your answers on blank paper instead of the provided Answer Sheet, indicate this **clearly** on the Answer Sheet and on the sheet with your answers on.

We hope you enjoy exploring the fascinating world of language. Remember that if you don't immediately see a way into a problem, it's because you're looking in the wrong place. Keep looking at it from different angles, and you'll get there.

Test Development Committee 2025: Julia Barron, Brendan Bethlehem, Toby Collins, Alison Craig-Greene, Lexie Graham, David Hellsten, Simi Hellsten (Chair), fr. Rudolf Loewenstein, Eimear McKnight, Vlad A. Neacșu (Technical Editor), Benedict Randall-Shaw, Daniel Titmas, Daniel Turaev, Babette Verhoeven.

Problem 4. Icelandic (10 marks)

Unlike many of the world's languages, Icelandic has not simply copied English terms for modern technology. Icelanders are proud of the rich history of their language, and have opted instead to coin authentic Icelandic words for various 21st century necessities. Nevertheless, since Icelandic, like English, is a Germanic language, some parts of the words below will look familiar (and have familiar meanings).

Here are fourteen Icelandic technological terms, followed by their English translations in a random order.



- | | |
|----------------------------|----------------------------|
| 1. farartæki | a. <i>cable (electric)</i> |
| 2. farsími | b. <i>computer</i> |
| 3. fartölva | c. <i>computer cable</i> |
| 4. kvikmynd | d. <i>electric light</i> |
| 5. myndsímtal | e. <i>electricity</i> |
| 6. rafmagn | f. <i>email message</i> |
| 7. rafmagnsljós | g. <i>laptop</i> |
| 8. rafmagnssnúru | h. <i>mobile phone</i> |
| 9. símanúmer | i. <i>film, movie</i> |
| 10. símahleðslutæki | j. <i>phone call</i> |
| 11. símtal | k. <i>phone charger</i> |
| 12. tölva | l. <i>phone number</i> |
| 13. tölvupóstur | m. <i>vehicle</i> |
| 14. tölvusnúru | n. <i>video call</i> |

Q 4.1 Determine the correct correspondences.

Q 4.2 Give the Icelandic words for:

15. *image*

16. *speech*

Q 4.3 Give an English expression for:

17. **símisnúru**

18. **tölvuljós**

Q 4.4 The adjective *mobile* in English can have two similar, but slightly different meanings. Give the Icelandic word-part that corresponds to each of the following meanings:

19. *portable, can be moved*

20. *moving*

Problem 4. Icelandic Answers

For Q4.1 write the corresponding letter under each item.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
m	h	g	i	n	e	d	a	l	k	j	b	f	c

4.2	15. mynd	16. tal
4.3	17. phone cable	18. computer light, screen
4.4	19. far	20. kvik

Maximum 26 pts.

Q 4.1 Max 14. 1 pt each.

Q 4.2 Max 4. 2 pts each. No partial marks.

Q 4.3 Max 4. 2 pts each. No partial marks, but allow any reasonable translation of the literal phrases *phone-string* and *computer-light*. Allow *phone charger* for 17.

Q 4.4 Max 4. 2 pts each. No partial marks.

Problem 4. Icelandic Commentary

The key to this problem is breaking down the words into their component parts. Note that for Q5.4, that distinction between **far** and **kvik** is only true in compounds; as standalone words, **fara** is a verb meaning *to go*, and **kvika** means *to move*.

farar-tæki	=	going-device = vehicle
far-sími	=	mobile-phone
far-tölva	=	mobile-computer = laptop
kvik-mynd	=	moving-picture = film, movie
mynd-sím-tal	=	picture-phone-talk = video call
rafmagn	=	electricity (lit. amber-power)
rafmagns-ljós	=	electric-light = electric light
rafmagns-snúru	=	electric-string = cable (electric)
síma-númer	=	phone-number
síma-hleðslu-tæki	=	phone-charge-device
sím-tal	=	phone-talk = phone call
tölva	=	computer
tölvu-póstur	=	computer-post = email message
tölvu-snúru	=	computer-string = computer cable

Problem 5. Armenian (15 marks)

Armenian, the official language of Armenia, is part of the Indo-European language family, the language family that contains most European languages like English and Russian, as well as many South Asian languages like Punjabi and Hindi. Its alphabet, developed in the early 5th century CE, is also related to the Latin alphabet we use for English, since both descend from an archaic form of the Greek alphabet.

Below are the names of several of the world's countries in the Armenian script, and their English equivalents in a random order. Note that some of the names of countries are slightly different in the Armenian language.



- | | |
|---------------|--------------|
| 1. Ֆրանսիա | a. Canada |
| 2. Գերմանիա | b. Australia |
| 3. Կանադա | c. Israel |
| 4. Իտալիա | d. America |
| 5. Իսրայել | e. Peru |
| 6. Բուլղարիա | f. Russia |
| 7. Արգենտինա | g. England |
| 8. Ավստրալիա | h. Bulgaria |
| 9. Ֆինլանդիա | i. Libya |
| 10. Ռուսաստան | j. France |
| 11. Անգլիա | k. Germany |
| 12. Պերու | l. Finland |
| 13. Ամերիկա | m. Romania |
| 14. Լիբիա | n. Italy |
| 15. Ռումինիա | o. Argentina |

Q 5.1 Determine the correct correspondences.

Q 5.2 Write (in the Latin alphabet) how you think the Armenian names for *England* and *Russia* are pronounced.

Q 5.3 Write the names of the following countries in the Armenian script:

- | | | | |
|----------|--------------|--------------|-------------|
| 16. Iran | 17. Pakistan | 18. Cameroon | 19. Burundi |
|----------|--------------|--------------|-------------|

The names of all of these are pronounced the same in Armenian as in English.

Problem 5. Armenian Answers

For Q5.1 write the corresponding letter under each item.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
j	k	a	n	c	h	o	b	l	f	g	e	d	i	m

5.2	England = Anglia	Russia = Rusastan or Rosastan
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5.3	16. Իրան	18. Կամերուն
	17. Պակիստան	19. Բուրունդի

Maximum 27 pts.

Q 5.1 Max 15. 1 pt per correct correspondence.

Q 5.2 Max 4. 2 pt each. Allow 1 pt for a reasonable attempt, with at most 2 incorrect letters. Do not require capital letters.

Q 5.3 Max 8. 2 pt each. 1 pt with one or two letters wrong. Be generous - the letters do not have to look exactly like the print forms, so long as it is clear which Armenian letter was intended. Note that **ն** counts as a single Armenian letter.

Problem 5. Armenian Commentary

Armenian uses an alphabet (really two, as there are some differences between the Eastern and Western alphabets) very similar to the Latin alphabet, although adjusted to suit the Armenian language better. The main difficulty in this problem is seeing through the small differences in country names in Armenian and English, as in Q4.2, which makes the problem more than just matching letters. Although the difference between uppercase and lowercase letters is usually mostly size, such as Պ / p which makes the *g* sound in *Germany*, some have more difference, such as Ա / u A / a.

References and further reading:

- <https://www.omniglot.com/writing/armenian.htm>

Problem 6. Colours (15 marks)

Languages and their speakers have many ways of describing colours – sometimes by comparing to well-known materials (*copper hair*, *mustard wallpaper*); sometimes using very specific terms (*crimson ribbon*); and sometimes using very broad terms (*grey-blue sky*). English has 11 “basic colour terms”: *white*, *grey*, *black*, *red*, *orange*, *yellow*, *green*, *blue*, *purple*, *pink*, and *brown*. However, other languages can have as few as 2 or as many as 12.

Below is a table with 8 objects, and the basic colour term that native speakers of fifteen different languages might use to describe them. Note that colour vision is not necessary to solve this problem.

	<i>ripe plum</i>	<i>ripe strawberry</i>	<i>ripe banana</i>	<i>fresh grass</i>	<i>clear sky</i>	<i>deep ocean</i>	<i>adult crow</i>	<i>fresh snow</i>
Bassa	hui	ziza	ziza	hui	hui	hui	hui	ziza
Bété	kp	zeli	zeli	kp	kp	kp	kp	fee
Ejagham	ebi	ebi	ebi	enyaga	enyaga	enyaga	enyaga	ebare
Karajá	iso	iso	tyre	tyre	tyre	tyre	ilyby	ura
Matsés	piu	piu	piu	umu	umu	umu	chëshe	ushu
Apinaye	grãgrã	kamrêk	ràràr	grãgrã	grãgrã	grãgrã	tyk	aka
Tsafiki	luban	luban	laqueban	losimban	fiban	paban	paban	fiban
Seri	kʔe'el	kʔe'el	kwassool	ko'il	ko'il	ko'il	k'ooppool	ko'oxp
Guambiano	piguig	piguig	uscuig	chilga	pillig	pillig	yalig	polig
Teribe	dindin	sresren	shoylor	keson	dindin	dindin	sisi	pluplun
Tlapanec	minuu	mana	mojmo	maxa	maxa	minuu	skuni	mixa
English	purple	red	yellow	green	blue	blue	black	white
Yakan	taluk	peat	binaning	gaddung	bilu	bilu	ittem	pole
Amuzgo	tsjan'chi	wee	cajan	cachuii'	tsa	tsjo'	ntom	canchii'
Hebrew	sagol	adom	tsahov	yarok	t'khelet	kakhol	shakhor	lavan

In 1969, the anthropologist Brent Berlin and linguist Paul Kay proposed a set of rules about basic colour terms. Five of them are given below in a simplified form, with the objects *ripe plum* – *fresh snow* replaced with the letters (A) – (H).

1. Every language has at least two basic colour terms, which distinguish between (A) and (B).
2. If it has at least three, it uses different words for each of (A), (B) and (C). If it has only three, the same word is used for both (B) and (D).
3. If it has at least five, it distinguishes between (B) and (D), and also has a unique word for (E).
4. If it has at least six, it distinguishes (D) from (F).
5. A language only has a unique word for (G) if it has one for (H). Before then, (G) will share a word with at least one of (A), (D) or (F).

Although these rules are no longer believed to be completely true, they do still describe most languages accurately. In particular, they do describe all fifteen languages above.

[This problem continues on the next page.]

Q 6.1 Determine which object each of the letters (A) – (H) refers to.

Hint: your answers shouldn't feel especially counterintuitive – languages with fewer basic colour terms will distinguish colours that are more different, and not distinguish colours that are more similar.

Q 6.2 Below is a similar table for eight other languages. For each language, indicate whether or not the basic colour words given follow rules 1-5.

	<i>ripe plum</i>	<i>ripe strawberry</i>	<i>ripe banana</i>	<i>fresh grass</i>	<i>clear sky</i>	<i>deep ocean</i>	<i>adult crow</i>	<i>fresh snow</i>
Abidji	wāwanakoko	lebe	wāwanakoko	fwae	fwae	gale	lobu	lofu
Ese Ejja	huo'o	huo'o	jahua	tahua	pohui	tahua	tehui	oshi
Kwerba	nokonum	nokonum	kainanesenum	icem	asiram	icem	icem	asiram
Lele	wile	wile	bore	bore	bore	induwa	induwa	bole
Ocaina	tsipi	tsiho	boora	moxooso	moxooso	moxooso	jutohfu	furaana
Waorani	opa'tawae	opa'tawae	na'amae'ta	we'nedae	we'nedae	we'nedae	wintamo	na'amae'ta
Yucuna	ipirani	querani	jehuani	ipureni	ipureni	ipureni	cameni	jareni
Zapotec	nu-bizat	nu-na'	nu-cach	nu-ca'	nu-ca'	nu-asul	nu-cas	nu-cacy

Q 6.3 Below is another similar table, but with one word in each row replaced with a letter (a)-(c).

	<i>ripe plum</i>	<i>ripe strawberry</i>	<i>ripe banana</i>	<i>fresh grass</i>	<i>clear sky</i>	<i>deep ocean</i>	<i>adult crow</i>	<i>fresh snow</i>
Nafaanra	nye	nye	___(a)___	wə	wə	wə	wə	finge
Tucano	sōa'ro	sōa'ro	ewuro	___(b)___	ya'saro	ya'saro	ñiro	butiro
Kalam	likañ	___(c)___	walin	minj-kimemb	muk	muk	mosimb	tund

For each of (a)-(c), give all possible words from the same row that the language might use to refer to that object, while still following rules 1-5.

Language information

Abidji, Bassa, and Bété are Kru languages, spoken by around 85,000, 600,000 and 50 speakers respectively in West Africa. Amuzgo, Tlapanec, and Zapotec are clusters of Otomanguean languages spoken in Mexico by around 60,000, 150,000 and 500,000 people respectively. Apinaye and Karajá are Macro-Je languages spoken in central Brazil by around 2,000 – 3,000 people each. Ejagham and Nafaanra are Atlantic-Congo languages, spoken by around 120,000 people in Nigeria and Cameroon, and 90,000 people, mostly in Ghana. Ese Ejja is a Tacanan language spoken by around 700 speakers in Peru and Bolivia. Guambiano and Tsafiki are Barbacoan languages, spoken by around 20,000 and 2,000 in the Colombian and Ecuadorian Andes. Hebrew and Lele are Afro-Asiatic languages, with around 5 million native speakers, primarily in Israel, and around 26,000 speakers in Chad. Kalam is a Trans-New-Guinea language, spoken by around 15,000 people in Papua New Guinea. Kwerba is spoken by around 2,500 people in five villages in West Papua. Matsés is a Panoan language spoken by around 2,000 people on the Peru-Brazil border. Ocaina is a Huitotoan language, spoken by around 50 people along the Peru-Colombia border. Seri is a linguistic isolate spoken by 700 – 1000 people in Mexico. Teribe is a Chibchan language spoken by around 3,000 people in Panama and Costa Rica. Tucano is a Tucanoan language, spoken by around 12,000 people along the Vaupés river in Brazil and Colombia. Waorani is a linguistic isolate spoken by around 2,000 speakers in Ecuador. There are possibly more speakers living in uncontacted groups in Peru. Yakan is an Austronesian language, spoken by around 100,000 people in the Philippines. Yucuna is an Arawakan language, spoken by nearly 2,000 people along the Miritiparaná river in Colombia.

Problem 6. Colours Answers

6.1	A. <i>fresh snow</i>	E. <i>ripe banana</i>
	B. <i>adult crow</i>	F. <i>deep ocean</i>
	C. <i>ripe strawberry</i>	G. <i>clear sky</i>
	D. <i>fresh grass</i>	H. <i>ripe plum</i>

For **Q6.2** tick the boxes corresponding to languages that follow the rules.

Abidji ☐	Ese Ejja ☐	Kwerba ☒	Lele ☒	Ocaina ☐	Waorani ☒	Yucuna ☐	Zapotec ☒
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6.3	a. <i>nye, wə, finge</i>	b. <i>ya'saro, butiro, sōa'ro</i>	c. <i>likañ, muk, minj-kimemb</i>
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Maximum 15 pts.

Q 6.1 Max 8. 1 pt each. Allow minor miscopying, e.g. *snow* for *fresh snow*, and misspellings, as long as it is clear what is intended.

Allow the English names of colours: *white, black, red, green, yellow, dark blue, light blue, purple*. Do not allow *blue*. Allow numbers 1-8 corresponding to the columns (i.e. 1 = *ripe plum*, 8 = *fresh snow*).⁷

Q 6.2 Max 4. Award 4 pts if completely correct. Award 3 pts if 7/8 boxes are correctly ticked or left blank. Award 2 pts if 6/8 boxes are correctly ticked or left blank. Award 1 pt if 5/8 boxes are correctly ticked or left blank. Award no points if 4 or fewer boxes are correct.

More succinctly: after four correct boxes, begin awarding 1 pt for a correct box.

Accept any indication of “correct” and “incorrect”, e.g. writing Yes/No, or crossing out languages that do not follow the rules, instead of leaving them blank.

Q 6.3 Max 3. 1 pt each if correct. No partial marks. Allow answers in any order.

Allow for minor misspellings, as long as it is clear what is intended.

Problem 6. Colours Commentary

Berlin & Kay’s original rules could be more accurately summarised as follows.

1. Every language distinguishes between “warm” red/yellow/white and “cool” green/blue/black.
2. Next, a language will split “warm” into white and red/yellow.*
3. Next, red/yellow splits into two words, referring to red and yellow, and green/blue/black splits into two words (either green and blue/black or green/blue and black.) These can happen in either order.

4. Next, the language evolves a unique word for blue, separate to both green and black.
5. Finally, the language evolves a word for brown, then purple, pink, grey, and orange in some order. Further distinctions, like light vs dark blue, come later.

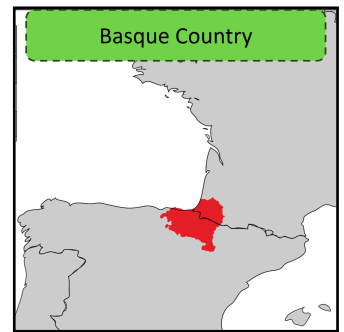
These rules, in particular the last one, have come under a lot of scrutiny, although they seem to describe most languages.

*Note that Karajá and Lele treat most yellows as a shade of green/blue, but are otherwise regular.

References and further reading: The data is taken from The World Color Survey (P. Kay, 2010).

Problem 7. Proto-Basque (20 marks)

Most languages spoken in Europe today are Indo-European, brought to Europe by waves of migration some time 3000 to 8000 years ago. This includes English, French, and German, as well as Russian, Greek, and Armenian. Before this, various other languages were spoken, such as the language of Minoan Crete, famous for its undeciphered writing system known as Linear A. Of these old European languages, only Basque survives, being spoken by around 800,000 people in northern Spain and southern France.



In the same way that French and Spanish descend from Latin, modern-day Basque descends from an older language called Proto-Basque. Although there are no speakers of Proto-Basque left, linguists can use historical methods to attempt to reconstruct what words in Proto-Basque may have looked like. For example, here is one proposal from the Proto-Basque numbers 1-9, given in a random order. Note that since these words are reconstructed, rather than known for certain, they are preceded by *.

- | | | |
|--------------------------------------|--------------------------|--------------------------------------|
| a. *berr-eri | d. *berr-eri-ahur | g. *eri-ahur |
| b. *be-oro-atz | e. *atz-az-eri | h. *atz-az-bada-eri-ahur-itzi |
| c. *atz-az-berr-eri-ahur-itzi | f. *bada-eri | i. *atz-az-berr-eri |

Each of these proposed Proto-Basque numbers are made of smaller meaningful word-parts. For example, ***berr-eri** literally means *another finger*.

Below are some of the word-parts of the Proto-Basque numbers, with their English translations given in a random order. Note that the meanings of ***be** and ***itzi** are not relevant (linguists have other reasons to believe that they were present).

- | | |
|-----------------|-------------------------------|
| 1. *ahur | j. <i>another</i> |
| 2. *atz | k. <i>finger</i> |
| 3. *az | l. <i>hand</i> |
| 4. *bada | m. <i>(in) palm (of hand)</i> |
| 5. *berr | n. <i>there is</i> |
| 6. *eri | o. <i>with</i> |
| 7. *oro | p. <i>whole</i> |

Q 7.1 Determine which of the numbers a-i above correspond to each of the numbers 1-9.

Q 7.2 Determine the correspondences between words 1-7 and j-p.

Below are the modern Basque numbers 5-10 in a northern dialect, given again in a random order.

- | | | |
|---------------------|-----------------|------------------|
| q. zazpi | s. bortz | u. zortzi |
| r. bederatzi | t. hamar | v. sei |

Q 7.3 Determine which of the modern Basque numbers q-v above correspond to each of the numbers 5-10. It may be helpful to know that Basque **z** is very similar to **s** (although pronounced with the tongue touching the teeth).

Problem 7. Proto-Basque Answers

For **Q7.1** write the corresponding letter (from a to i) under each item.

1	2	3	4	5	6	7	8	9
f	a	d	g	b	e	i	c	h

For **Q7.2** write the corresponding letter (from j to p) under each item.

1. *ahur	2. *atz	3. *az	4. *bada	5. *berr	6. *eri	7. *oro
m	l	o	n	j	k	p

For **Q7.3** write the corresponding letter (from q to v) under each item.

5	6	7	8	9	10
s	v	q	u	r	t

Maximum 19 pts.

If the word(s) referred to by the letter has been written (e.g. *another* instead of j) mark it as correct.

Q 7.1 Max 9. 1 pt each.

Q 7.2 Max 7. 1 pt each.

Q 7.3 Max 3. 3 pts for all 6 correct; 2 pts for 4 or 5 correct; 1 pt for 2 or 3 correct.

In other words, 0.5 pts per tick, then round down to a whole number.

Problem 7. Proto-Basque Commentary

These Proto-Basque reconstructions are still not widely accepted, but are one recent proposal. The numbers 1-9 have the following literal translations:

1. *there is a finger*
2. *another finger*
3. *another finger in the palm*
4. *finger in the palm*
5. (?) *whole hand*
6. *hand with finger*
7. *hand with another finger*
8. *hand with 2 (left) in the palm*
9. *hand with 1 (left) in the palm*

To derive the modern forms, make the following observations:

- Two end in **-tzi**, and two end in ***itzi**. Of these, ***bada** probably corresponds with **bede**, giving 8 and 9.
- ***be-oro-atz** > **bortz** is very plausible.
- Of the following, both **sei** and **zazpi** end in **i**, and contain **s~z**. This makes more sense to correspond to 6 and 7. Of these, the **p** likely comes from the **b** in ***berr**, so we get 6 and 7. Note that **sei** may also be a Romance borrowing.

- **Hamar** looks nothing like any of the Proto-Basque 5-9, so must be 10.

References and further reading:

- Gomez-Acedo, F. and Gomez-Acedo, E., 2019. *Reconstruction of the Ancient Numeral System in Basque Language*. *Philology*, 4(2018-2019), pp.157-172.