# <1> Eat, drink and enjoy Welsh[1] (1/2)          14 points

Welsh is a Celtic language spoken in Wales, which makes it the oldest surviving language in the UK. Currently, just over 880,000 people speak Welsh, and the language is becoming more widely spoken after a long period of decline.

**Task 1**. In the table below are some Welsh sentences with their English translations, except they have been mixed up. Match the Welsh sentences to the correct English translations.

|   | Welsh sentences |   | English sentences |
|---|---|---|---|
| 1 | Mae e'n yfed cwrw. | a | I am not drinking beer. |
| 2 | Dw i ddim yn yfed cwrw. | b | You are not eating meat. |
| 3 | Rwyt ti'n bwyta llysiau. | c | Is she eating cake? |
| 4 | Dw i'n yfed coffi. | d | Are you (lot) enjoying (some) chocolate? |
| 5 | Ydy hi'n bwyta cacen? | e | They are eating pasta. |
| 6 | Wyt ti'n yfed te? | f | You (lot) are not enjoying vegetables. |
| 7 | Ydyn ni'n yfed coffi neu te? | g | He is drinking beer. |
| 8 | Dwyt ti ddim yn bwyta cig. | h | They are not enjoying tea. |
| 9 | Dych chi'n mwynhau siocled? | i | You are eating vegetables. |
| 10 | Dydyn nhw ddim yn mwynhau te. | j | I am drinking coffee. |
| 11 | Maen nhw'n bwyta pasta. | k | Are we drinking coffee or tea? |
| 12 | Dych chi ddim yn mwynhau llysiau. | l | Are you drinking tea? |

Answers: 0.25 x 12 = **3 points**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|----|----|----|
| g | a | i | j | c | l | k | b | d | h | e | f |

**Task 2**. Now translate the following sentences into Welsh. full point if all correct = **5 points**

|   | English sentences | Welsh translations |
|---|---|---|
| 13 | You (lot) are drinking coffee. | *Dych chi'n yfed coffi.* |
| 14 | Is he drinking tea? | *Ydy e'n yfed te?* |
| 15 | We are not enjoying beer. | *Dydyn ni ddim yn mwynhau cwrw.* |
| 16 | She is eating chocolate. | *Mae hi'n bwyta siocled.* |
| 17 | Are they drinking coffee? | *Ydyn nhw'n yfed coffi?* |

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[1] Created by Babette Verhoeven (NACLO).
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# <1> Eat, drink and enjoy Welsh (2/2)

**Task 3**. Look at the sentences in the table below. Can you complete the table? 1 pt if all correct = **6 points**

| | **English sentences** | **Welsh sentences** |
|---|---|---|
| 18 | She liked coffee. | Roedd hi'n hoffi coffi. |
| 19 | They didn't enjoy chocolate. | Doedden nhw ddim yn mwynhau siocled. |
| 20 | Did he like chocolate? | *Oedd e'n hoffi siocled?* |
| 21 | Did we eat vegetables? | *Roedden ni'n bwyta llysiau?* |
| 22 | *We drank beer.* | Roedden ni'n yfed cwrw. |
| 23 | We did not drink tea. | *Doedden ni ddim yn yfed te.* |
| 24 | *You (lot) did not enjoy vegetables.* | Doeddech chi ddim yn mwynhau llysiau. |
| 25 | Did you (lot) like meat? | *Oeddech chi'n hoffi cig?* |

**Explanations:**
Welsh verb phrases in present tense involve a verb-noun (the action that is the focus of the sentence) with a form of the auxiliary verb 'be' and the particle 'yn'.
The auxiliary verb goes first, followed by the pronoun / noun and then the particle 'yn'. The particle follows the pronoun where it is contracted if pronoun ends in a vowel. The pronoun "nhw" (they) ends in a vowel – as "w" is pronounced similarly to the double oo in "book".
The auxiliary verb forms are somewhat regular, but unlike English, there are distinctive forms for "normal" affirmative sentences, questions, and negative sentences.

**Present tense forms for auxiliary 'be' in Welsh with pronouns:**

| | **Auxiliary verb + pronoun in Welsh – affirmative** | **English** | **Auxiliary verb + pronoun in Welsh – interrogative (question)** | **English** | **Auxiliary verb + pronoun in Welsh – negative** | **English** |
|---|---|---|---|---|---|---|
| 1 | dw + i | I am | dw + i? | am I? | dw i ddim | I am not |
| 2 | rwyt + ti | you are (singular) | wyt ti? | are you? (sing) | dwyt ti ddim | you are not (sing) |
| 3 | mae + e / mae + hi | he is / she is | ydy e? ydy hi? | Is he? Is she? | dydy e ddim dydy hi ddim | he is not she is not |
| 1 | dyn + ni | we are | ydyn ni? | are we? | dydyn ni ddim | we are not |
| 2 | dych + chi | you are (plural, polite) | dych chi? | are you (pl., pol.) | dych chi ddim | you are not (pl., pol.) |
| 3 | maen + nhw | they are | ydyn nhw? | are they? | dydyn nhw ddim | they are not |

The first person plural (we) and the third person plural (they) have the same auxiliary verb forms.
While first person singular (I) and second person plural (you lot) have auxiliary verb forms that remain the same, the other auxiliary verb forms change with a pattern:
Affirmative has 'r' for 2nd person singular 'rwyt' , which becomes 'wyt' in interrogative mood and 'dwyt' in negative mood.
Another negative marker is added after the pronoun and before the main verb-noun form: 'dim' (= no / not in English), this is written with an extra 'd' when it follows a pronoun or noun: 'ddim'.
The past tense forms have a more regular pattern for the pronouns used in C:

**Past tense forms for auxiliary 'be' in Welsh with pronouns:**

| | Auxiliary verb + pronoun in Welsh – affirmative | English | Auxiliary verb + pronoun in Welsh – interrogative (question) | English | Auxiliary verb + pronoun in Welsh – negative | English |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | roedd e roedd hi | he was she was | oedd e oedd hi | was he? was she? | doedd e doedd hi | he was not she was not |
| 1 | roedden ni | we were | oedden ni | were we? | doedden ni | we were not |
| 2 | roeddech chi | you (pl., pol.) were | oeddech chi | were you? (pl., pol.) | doeddech chi | you were not (pl., pol.) |
| 3 | roedden nhw | they were | oedden nhw | were they? | doedden nhw | they were not |

**Note:**

There are more forms of the auxiliary verb, depending on which dialect of Welsh (there are big differences between North and South, for example) and on the level of formality. The forms used in this problem are formal, written Welsh.

**References:**

Jones, C. (2010) *Teach Yourself Essential Welsh Grammar*. London: Hodder Education

King, G. (1996) *Basic Welsh. A Grammar and Workbook*. London: Routledge

| | Auxiliary verb + pronoun in Welsh – affirmative | English | Auxiliary verb + pronoun in Welsh – interrogative (question) | English | Auxiliary verb + pronoun in Welsh – negative | English |
|---|---|---|---|---|---|---|

## <2> To Agree or Not Agree[2] (1/2)    <span style="color:red">**11 points**</span>

This problem focuses on some differences between Old English[3] and Present Day English in the forms of pronouns and verbs. The examples are not taken from any texts, but are based on sentences found in texts of the ninth and tenth centuries.

NOTE: the pronunciation of the letters is not important for this problem. For the most part, Latin letters were used to represent similar sounds in Old English. The letter æ represented a vowel similar to 'a' in Present Day English *hat.* The symbol þ, called 'thorn', comes from the runic alphabet and was pressed into service to represent sounds not found in Latin, the two sounds of 'th' in Present Day English *thy* and *thigh*.

Consider these Old English sentences and their Present Day English counterparts.

| | **Present Day English** | **Old English** |
|---|---|---|
| 1. | *Æthelwine and Wulfstan saw these men. They greeted them.* | Æþelwine and Wulfstan gesawon þas men. Hi hi gretton. |
| 2. | *Does it save us?* | Nereþ hit us? |
| 3. | *The king and the bishop and I saw the archbishop. We greeted him.* | Se cyning and se bisceop and ic gesawon þone arcebisceop. We hine gretton. |
| 4. | *What do we say?* | Hwæt cweþe we? |
| 5. | *The teaching saves you.* | Seo lar eow nereþ. |
| 6 | *We come.* | We cumaþ. |
| 7. | *We do not hear these women.* | Ne hiere we þas wifmen. |
| 8. | *These men hear these women. They did not see them.* | þas weras hieraþ þas wifmen. Ne gesawon hi hi. |
| 9. | *You heard these men.* | þu hierdest þas menn. |
| 10. | *Then we heard you.* | þa hierde we þe. |
| 11. | *King Alfred and the bishop rode into the town. Then we saw them.* | Alfred cyning and se bisceop ridon into þære byrig. þa gesawe we hi. |
| 12. | *Did you see us?* | Gesawe ge us? |
| 13. | *What do you perform?* | Hwaet fremest þu? |
| 14. | *Did we perform it?* | Fremede we hit? |

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[2] Created by Cynthia Allen (OzCLO).

[3] If someone referred to Old English, would you think of the language of Shakespeare, who was active at the end of the sixteenth century and beginning of the seventeenth, or possibly of Geoffrey Chaucer's *Canterbury Tales,* written c. 1385? In the standard periodisation of English, Shakespeare's language is actually Early Modern English, while Chaucer was writing late Middle English. English was brought to England from Germany and northern Denmark in the early fifth century, before the conversion of the English to Christianity. It was occasionally written in inscriptions using the Germanic runic alphabet. A small number of English writings in the Latin alphabet appear c. 700, but it is only in the ninth century that we find a substantial body of texts. The Old English (also known as Anglo-Saxon) period extended to c. 1100, when enough changes to the language had happened that it would be unintelligible to the people who brought the language to England. If Old English was incomprehensible to the speakers of the Middle English period, this is even more true for Present Day English speakers. Many changes have taken place in all areas of the language, meaning that a Present Day English speaker must learn it as a foreign language like its West Germanic relatives German and Dutch.

# <2> To Agree or Not Agree (2/2)

**Task 1**. Translate these Old English sentences into Present Day English: 0.5 x5 = **2.5 points**

| 15. | Ne hierde ge hi | You did not hear them | Allow "didn't" | 1 |
|-----|-----------------|----------------------|----------------|---|
| 16. | We gesawon eow | We saw you | | 1 |
| 17. | Ne gesawon hi þe | They didn't see you | Allow "They did not see you/thee" | 1 |
| 19. | Hi hit fremedon | They performed it | | 1 |
| 20. | Ne nerede we þe | We didn't save you | Allow "We did not save you/thee" | 1 |

Here are some more Old English sentences:

| 21. | Wit hieraþ þæt word and wit cweþaþ hit. | *We hear the word and we say it.* |
|-----|------------------------------------------|-----------------------------------|
| 22. | Se cyning and ic gesawon þas hreoflan, ac ne grette wit hi. þas hreoflan gretton unc. | *The king and I saw these lepers but we did not approach them. These lepers greeted us.* |
| 23. | þonne cume wit to his rice. | *Then we come to his kingdom.* |
| 24. | Æþelbald and ic gesawon eow, ac ne hierde wit eow. Wit gretton eow. | *Athelbald and I saw you, but we didn't hear you. We greeted you.* |
| 25. | Edmund and Swiþun, ne hiere git þas wifmen, ac wit hieraþ hi. þas wifmen hieraþ inc. | *Edmund and Swithun, you do not hear these women, but we hear them. These women hear you.* |

**Task 2.** According to each of the four situations described, give the appropriate Old English translation of this Present Day English sentence: *We saw you.* 0.25 each correct word (0.25 x 12) = **3 pts**

| i. | Wit gesawon eow | Athelwine tells the three men that he and Wulfstan saw them. |
|----|-----------------|--------------------------------------------------------------|
| ii. | We gesawon þe | I tell the archbishop that the king, the bishop and I saw him. |
| iii. | We gesawon eow | I answer this question positively: *Gesawe ge us*? |
| iv | Wit gesawon inc | I tell Edmund and Swithun that Paulus and I had seen them. |

**Task 3.**

Insert the missing verb in these Old English translations of the Present Day English sentences. 1 x 4 = **4 points**

| 26. | Ne grette ge hi | You did not greet them. |
|-----|-----------------|-------------------------|
| 27. | Seo lar hi nereþ | The teaching saves them. |
| 28. | Git hit cweþaþ | You two say it. |
| 29. | þa hierdon hi us | Then they heard us. |

**Task 4**. Translate this Present Day English sentence into Old English. **1 point** for correct verb & **0.5** for correct pronoun, only if in correct order, i.e., verb first followed by subject pronoun. = **1.5**

| 30. | Did they obey Edmund and Wulfstan? | Hierdon hi Edmund and Wulfstan? |
|-----|-------------------------------------|----------------------------------|

<u>Explanation</u>
The OE verb changed to mark the person of singular subjects (*I* vs *thou* [þu] vs *he/she/it*) and to mark a plural subject (*we* [wit, we]*, you* (git, ge), *they* [hi]) as opposed to a singular one. However in sentences where the verb must precede the subject (after negative *ne*, or a word like 'then' [þa], or in an interrogative sentence) the plural form is only retained for a third person subject, i.e. *they* [hi]. If first person (we two/all) or second person (you two/all) then a third person singular verb form is used. In PDE only auxiliary verbs must precede the subject, e.g. *Have* you come here?, Nor *did* I see it.

### <3> What / Where / Who / Why is Albanian?[4] (1/1)     20 points

Here are some questions in Albanian, an Indo-European language language spoken in the Balkans region of Europe. It is the official language of Albania and the majority language of Kosovo. These questions are in random order, while their English translations are listed in alphabetical order. NOTE: ë is a vowel and ç is a consonant, and *you* is always singular.

| | |
|---|---|
| 1. Pse është në Angli? | A) Did you drink anything? |
| 2. Kujt ia shiti? | B) Did you kill someone? |
| 3. Kë vrau? | C) How did you dance? |
| 4. Pse ia shite? | D) How much did he cut? |
| 5. Kur arriti në Angli? | E) What did he buy? |
| 6. Kush është gati? | F) What did you drink? |
| 7. Kur mësove shqip? | G) What is this? |
| 8. Sa preu? | H) When did he sell it to him? |
| 9. Ku është i ati? | I) When did he arrive in England? |
| 10. Çfarë bleu? | J) When did you learn Albanian? |
| 11. Kush është në Angli? | K) Where is his father? |
| 12. Si kërceve? | L) Where did the cat go? |
| 13. Çfarë është kjo? | M) Who did he wash? |
| 14. Ku vajti macja? | N) Who did he sell it to? |
| 15. Kë lau? | O) Who did he kill? |
| 16. A vrave dikë? | P) Who is in England? |
| 17. Çfarë pive? | Q) Who is ready? |
| 18. Kur ia shiti? | R) Who is this? |
| 19. Kush është kjo? | S) Why did you sell it to him? |
| 20. A pive gjë? | T) Why did you learn Albanian? |
| 21. Pse mësove shqip? | U) Why is he in England? |

**Task 1**. Match the Albanian phrases with their English translations by writing the letter corresponding to the English translation below the number of Albanian sentence. 0.5 x 21 = **10.5 points**

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

**Task 2.** Translate these Albanian sentences into English: 1x4 = **4 points**

| a. | Ku kërceu? | Where did he dance? | 1 |
|----|-----------|---------------------|---|
| b. | A është macja gati? | Is the cat ready? | 1 |
| c. | Çfarë preve? | What did you cut? | 1 |
| d. | A shiti gjë? | Did he sell anything? | 1 |

**Task 3.** Translate these four English sentences into Albanian: **5.5 points**

| e. | How much did his father drink? | Sa piu i ati? | 1.5 |
|----|-------------------------------|---------------|-----|
| f. | What did you buy? | Çfarë bleve? | 1.5 |
| g. | Did you wash someone? | A lave dikë? | 1 |
| h. | How did the cat dance? | Si kërceu macja? | 1.5 |

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[4] Created by David Hellsten.

Explanation
Two verb conjugations feature in this problem, where the 2<sup>nd</sup> and 3<sup>rd</sup> person singular forms are formed with either *-ve / -u* (after a stem ending on a vowel) or *-e / -i* (when the stem ends on a consonant): *lave – lau* (washed), *vajte – vajti* (went). *Është* meaning "is" irregular.

(The verb *mësove* actually belongs to a different, more common conjugation pattern, where the 3<sup>rd</sup> singular is *mësoi*, but that's not relevant to this problem.)

In questions, the word order is normally Question word – V – S – O, although QVOS is also possible. When the subject is a personal pronoun, it is usually omitted. Pronominal objects (in this problem only *ia*, which means "him/her/it" or "to him/her/it") always come before the verb.

The question words featured are:

|  |  |
|---|---|
| *Kush* = who? | *Pse* = why? |
| *Kë* = whom? | *Kur* = when? |
| *Kujt* = to whom? | *Sa* = how much? |
| *Çfarë* = what? (object) | *Ku* = where? |
| *Si* = how? | *A* = yes/no question marker |

## **<4> MaROONed[5] (1/1)**                    **22 points**

Roon is an Austronesian language spoken by more than 1,000 people in Indonesia. Roon has changed since it was first recorded by European explorers over 150 years ago.

This problem investigates Roon numerals as they were spoken in 1855, 1955, and 2012. (Some numbers given here are slightly simplified for the purpose of this puzzle.)

**Some numerals have remained the same:**

| #  | 1855 | 1955 | 2012 |
|----|------|------|------|
| 2  | suru | suru | suru |

**Others have changed once:**

| #  | 1855     | 1955  | 2012  |
|----|----------|-------|-------|
| 10 | onemerim | safur | safur |

**However, the majority of numerals have changed twice:**

| #  | 1855       | 1955              | 2012                  |
|----|------------|-------------------|-----------------------|
| 7  | onemenuru  | rimenuru          | fik                   |
| 32 | arsos safur suru | aresoyosier safur suru | ares kior beberin suru |

Below are numbers or expressions in Roon, representing the same value but in different years. + and × represent addition and multiplication respectively.

| #   | 1855                          | 1955                        | 2012                       |
|-----|-------------------------------|-----------------------------|----------------------------|
| (a) | suru × gokor                  | rimeyosier                  | yosier + rim               |
| (b) | onem × fak                    | igokor × rimigokor          | ares suru beberin fiak     |
| (c) | safur onem + onemefak         | aresoyosier rim             | siw × suru + fik           |
| (d) | arsos di suru yoser + safur rim | safur suru + aresonuru fak | ares rim beberin wonem     |

**Task 1.** Replace letters (a) to (d) in the table above with the numbers in digits corresponding to their values. 1 x 4 = **4 points**

(a) <u>6</u>          (b) <u>24</u>          (c) <u>25</u>          (d) <u>56</u>

**Task 2.** Fill in blanks (e–n) below with the proper number or Roon numeral (taking into account the year). Write only one numeral/value, not a mathematical expression. 1.5 x 12 (1.5 points for each correct word or number) =  **18 points (**counting *safur onemenuru* and *safur rimenuru* as 2 words each, rather than one word each).

| #  | 1855            | 1955            | 2012      |
|----|-----------------|-----------------|-----------|
| 3  | gokor           | igokor          | **kior**  |
| 6  | onem            | rimeyosier      | wonem     |
| 8  | onemegokor      | rimigokor       | **war**   |
| 17 | safur onemenuru | safur rimenuru  | **safur fik** |

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[5] Created by Riley Kong.

Explanation

1855 and 1955 Roon had a base-20 system, while 2012 Roon has a base-10 system (influenced by the dominant base-10 language Biak used in education). **fik**, **war**, and **siw** are borrowed from Biak.

[#]

| | |
|---|---|
| 1 | **yoser** 1855 > **yosier** 1955, 2012 |
| 2 | **suru** (**nuru** when attached to another morpheme) |
| 3 | **gokor** 1855 > **igokor** 1955 > **kior** 2012 |
| 4 | **fak** 1855, 1955 > **fiak** 2012 |
| 5 | **rim** |
| 6 | **onem** 1855 > **wonem** 2012 |
| 7 | **fik** |
| 8 | **war** |
| 9 | **siw** |
| 10 | **safur** |
| Base | **arsos** 1855 > **areso-** 1955 > **ares** 2012 |

*1855*

| | |
|---|---|
| 1-6 | [α] |
| 7-10 | **oneme-**[α-5] "6+α(-1)" *irregular! |
| 11-19 | **safur** [α] "10+α" |
| 20-39 | **arsos** ([α]) "20+α" |
| 20-99 | 20α + β = **arsos di** [α] ([β]) |

*1955*

| | |
|---|---|
| 1-5 | [α] |
| 6-9 | **rime-**[α-5] "5+α" (**ei** > **e**) |
| 10-19 | **safur** ([α]) "10+α" |
| 20-99 | 20α + β = **areso-**[α] ([β]) |

*2012*

| | |
|---|---|
| 1-9 | [α] |
| 10-19 | **safur** [α] "10+α" |
| 20-99 | 10α + β = **ares** [α] (**beberin** [β]) |

Possible evolution of the number 56:

*1855*  **arsos di suru safur onem**   20 x 2 (+) 10 (+) 6
- deletion of **di**
- **arsos** > **arso** > **areso-** (**suru** > **nuru**)
- regularization **onem** "6" > **rim-e-yosier** "5 + 1"

*1955*  **aresonuru safur rimeyosier**         20x2 (+) 10 (+) 6
- reanalysis of **aresonuru** as **ares-o-nuru**
- reanalysis of **arsos** > **ares**: "20" > "base" > "10"
  - "50" becomes **ares rim** "base (×) 5"
- addition of **beberin** "+"
- reversion (re-borrowing) of **onem** > **wonem** "6"

*2012*  **ares rim beberin wonem**  10 (×) 5 + 6

## <5> Getting the tone right in Abawiri[6] (1/1)          **15 points**

Below are some phrases in Abawiri, sometimes also called Foau, a Lakes Plain language spoken by several hundred people in Western New Guinea, Indonesia. Their English translations are listed on their right.

**Pronunciation notes**: A mark above a vowel indicates its tone, i.e., the pitch it is pronounced at. Specifically, ` (e.g., à) indicates low tone, ¯ (e.g., ā) indicates mid tone, and ´ (e.g., á) indicates high tone. **β** is pronounced like **b** but with the lips only lightly touching. **gʷ** is a single consonant pronounced like **gw**. Both **ɛ** and **ɔ** are vowels, similar to vowel sounds in English *bear* and first 'o' in *borrow* respectively.

| | | | | | |
|---|---|---|---|---|---|
| 1. [bɔ́rú gʷákù] | fish's ear | | 5. [àjà sɔ̀krɛ̀] | chicken's rat |
| 2. [sɔ̀krɛ̄ dúkɛ̀] | rat's bird | | 6. [dúkɛ́ sɔ̀rì] | bird's earth |
| 3. [dὲβì àitὲ] | child's father | | 7. [dὲβí wùtù] | child's car |
| 4. [àitɛ́ dὲβì] | father's child | | 8. [sɔ̀rì βɔ́rù] | earth's fish |

**Task 1.**  Translate the Abawiri phrases (a to c) into English. **3 points**

| | | | |
|---|---|---|---|
| a. | [àjā βɔ́rù] | chicken's fish | 1 |
| b. | [dúkɛ́ àitὲ] | bird's father | 1 |
| c. | [wùtù dúkɛ̀] | car's bird | 1 |

**Task 2.** Translate these English phrases (d to i) into Abawiri making sure that you mark the tones correctly. 1 point for each correct word = **12 points**

| | | | |
|---|---|---|---|
| d. | car's earth | wùtú sɔ̀rì | 2 |
| e. | bird's car | dúkὲ wùtù | 2 |
| f. | father's rat | àitὲ sɔ̀krὲ | 2 |
| g. | child's fish | dὲβì βɔ́rù | 2 |
| h. | earth's chicken | sɔ̀rì àjà | 2 |
| i. | father's ear | àitɛ̄ gʷákù | 2 |

Author's comments and solution: Some observations of Abawiri grammar.
- Word order is possessor-possessed
- b → β after a vowel
•       - Words have a lexical tone, either high (H), low (L), or toneless (0) o   Words take their tone on their first syllable (toneless expressed as low by default)
•       - The final syllable in the phrase is always low
•       - Since all the phrases are two-word and four-syllable, the only thing left to explain is the second syllable of the phrase: o   Before L tone (*n.b.*: a true L, not a toneless word expressed as low), the previous syllable becomes high (anticipatory tonal polarity)
•       o   Before H tone, a toneless word's final syllable drifts upwards to mid tone (gradual updrift)
•       o   If neither of the previous apply, then the word's first syllable tone spreads to its second syllable tone (toneless taking a default low-low)
•       Tones of words in the problem:

| H | | L | | ○ | |
|---|---|---|---|---|---|
| bɔ́ru | *fish* | dὲβi | *child* | sɔkrɛ | *rat* |
| gʷáku | *ear* | sɔ̀ri | *earth* | aja | *chicken* |
| dúkɛ | *bird* | wùtu | *car* | aitɛ | *father* |

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[6] Created by Daniel Lovsted (NACLO)

Notes:

- This problem demonstrates only a very small piece of the Abawiri tone system. In Abawiri, there are many more lexical tone categories than these three, and words with different numbers of syllables fall into each one. There are also grammatical tone rules in some limited contexts. The rule that the last syllable in a phrase/utterance is low always applies, as does gradual updrift. Anticipatory tonal polarity applies except in some specific syntactic contexts.

- None of the tone rules shown in this problem are specific to the genitive construction, which is a simple juxtaposition of possessor-possessed

Source:
https://escholarship.org/uc/item/4mj571tr
Yoder, Brendon Eugene. *A grammar of Abawiri, a Lakes Plain language of Papua, Indonesia.*
2020. Especially, pp. 65 ff. for tone analysis/data and p. 111 for genitive construction.

# <6> Vloxes[7] (1/2)     **18 points**

Exciting news: You've gotten clearance to visit Mars! Your job there is to take care of some Martian animals called vloxes. Here are the 9 vloxes that you are in charge of:
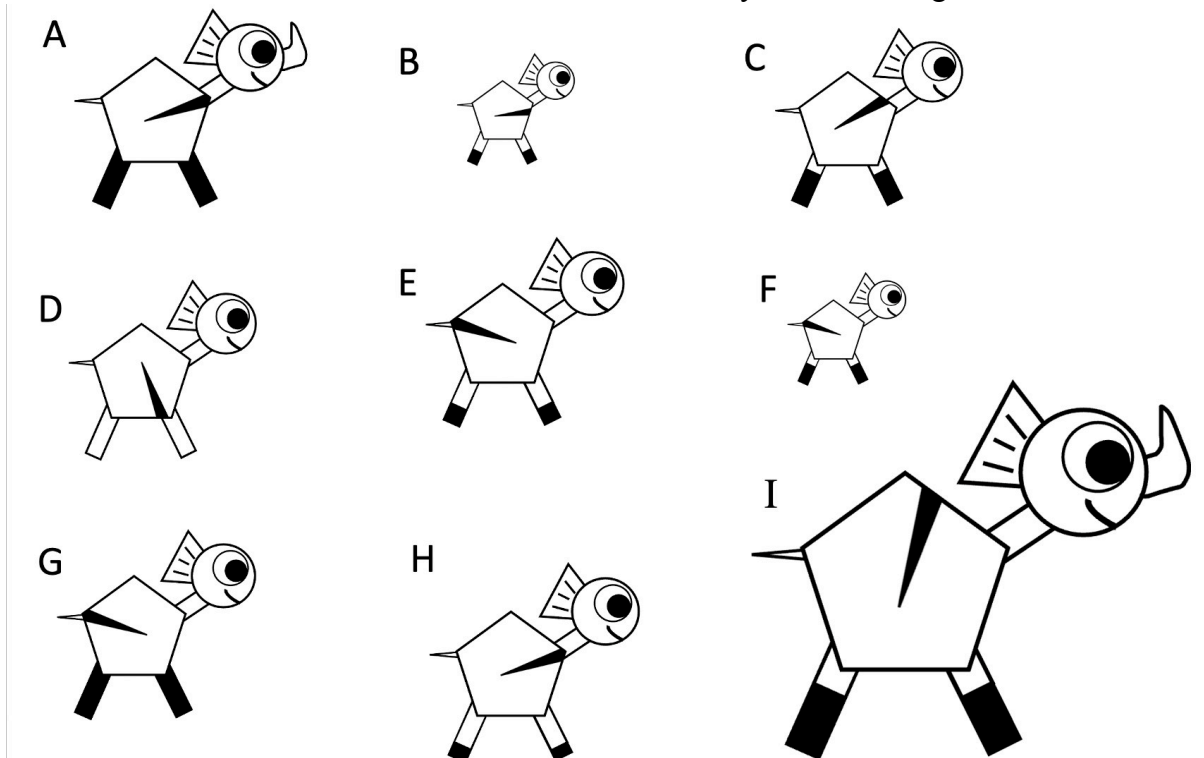


Your manager asks you to identify which vloxes fit the following descriptions:

- The two mellivu vloxes
- The two mellovu vloxes
- The two kibb vloxes
- The two azeltorf vloxes
- The qliqli vlox
- The imxo vlox
- The three ravv vloxes
- The kibbish-zuff vlox
- The zuffish-kibb vlox

Unfortunately, many of these words are unfamiliar to you, and you don't have a dictionary! Luckily, you do have an encyclopedia article (on the next page) that uses these words. Even though the article doesn't define the words directly, you can figure out a lot about a word based on how it is used in context. In fact, this basic strategy is an important approach in computational linguistics: When computers need to learn the meanings of words, they do so by analyzing the contexts that those words appear in.

**Task 1.** Based on what you can infer from the encyclopedia article, fill in the letter or letters of the vloxes that fit each description from your manager. You will need to use some letters more than once. (Write the letters corresponding to your choices to the right of the appropriate description received from your manager.)

**Task 2.** Fill in the blanks to create a description of the youngest vlox in the image. Each blank should be filled in with one of the following words: *zuff, kibb, tezz, womm, ravv*. You should not use the same word twice.

_____ish-_____

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[7] Created by Tom McCoy (NACLO).

## <6> Vloxes (2/2)

# Vlox

*From Marsipedia, the Martian encyclopedia*

The vlox (*Vloxis vloxia*) is the most imxo species of zoobleporf. Due to its playful disposition, it is a popular pet throughout Mars.

| **Contents** |
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| 1 Appearance |
| 2 In popular culture |

## Appearance

Vloxes occur in two breeds: the polar vlox and the valley vlox. Polar vloxes are usually more mellivu than valley vloxes.[1] Regardless of breed, all vloxes are born completely qliqli. As they mature, they become less and less qliqli. It is believed that all prehistoric vloxes were zuffish-kibb or tezzish-kibb, but modern vloxes display great variety in zlorvitude.

## In popular culture

- In the "Olympus Mons Explorers" comics, Captain Dfdgb's spaceship is called *The Mellovu Vlox*.
- The first Martian prime minister, Jzirla Jzirlsdaughter, was often seen with her kibbish-zuff vlox named Klgrdm.
- In the sitcom "Phobos and Deimos", the main character Phobos has three imxo vloxes: a kibb vlox named Blorblim, a zuffish-ravv vlox named Qqqq, and a ravvish-womm vlox named Robert.
- The most popular song by the Bellona Quartet is "Lookin' Like a Nearly Azeltorf Vlox," which spent seven weeks at the #1 position on the Mercury Top 60 chart.

## Notes

[1] In a previous edition of this encyclopedia, we said that polar vloxes are more mellovu than valley vloxes. This was a typo - obviously, it makes no sense to say "more mellovu"!

Vloxes: Solution

Task 1. 1 pt for each correct x 15 = **15 points**

| | |
|---|---|
| • The two mellivu vloxes: | B,F |
| • The two mellovu vloxes: | A,I |
| • The two kibb vloxes: | A,H |
| • The two azeltorf vloxes: | A,G |
| • The qliqli vlox: | D |
| • The imxo vlox: | I |
| • The three ravv vloxes: | E,F,G |
| • The kibbish-zuff vlox: | I |
| • The zuffish-kibb vlox: | C |

Task 2. wommish-tezz  **3 points**

Solution path:

From looking at the pictures, you can see that the vloxes vary along these 4 dimensions:
• Their size
• Whether or not they have a horn
• The direction of the stripe on their bodies
• How shaded-in their legs are

So, we can assume that the adjectives in the descriptions refer to these attributes.

In the encyclopedia, we see the phrases completely qliqli and nearly azeltorf. To use completely or nearly, the adjective must refer to something that is a scale with a definite end (e.g., you can say "completely full" but not "completely large" or "completely four-legged.") The only attribute that has this property is leg-shadedness. The descriptions say "the two azeltorf vloxes" and "the qliqli vlox." There is one completely unshaded vlox, and two completely shaded vloxes, so we can conclude that azeltorf = shaded, and qliqli = unshaded. (Note that, when a word like full or empty is used in isolation, it refers to most extreme version of the word – completely full or completely empty). Thus the two azeltorf vloxes are A and G, and the qliqli vlox is D.

In the encyclopedia, the words that take the form WORDish-WORD are made of 5 basic pieces: zuff, kibb, tezz, ravv, womm. This fits with the fact that there are 5 points on the vloxes' bodies.

In the encyclopedia, we also see certain patterns regarding which parts occur together within a word: womm and ravv occur together in ravvish-womm, zuff and ravv occur together in zuffishravv, etc. If we hypothesize that each word corresponds to one point in the pentagon, then perhaps these "ish" words correspond to in-between points (something like greenish-yellow). If this is so, we can figure out which points are neighbors by looking at the "ish" words. This gives us the following chain of neighbors (but we don't yet know which corresponds to which point): womm – ravv – zuff – kibb – tezz. Now, looking at the descriptions, there are three ravv vloxes, and two kibb vloxes. The only stripe direction represented 3 times is pointing toward the tail, so the 3 ravv vloxes must be E,F,G; and the only direction represented twice is pointing toward the head, so the 2 kibb vloxes must be A and H. With ravv and kibb sorted out, we can then identify the other points on the pentagon based on the chain we figured out from the text:
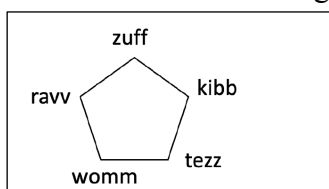
We are also asked for the kibbish-zuff and zuffish-kibb vlox. Based on what we've figured out about the pentagon, these should be between the top point (zuff) and the point to its right (kibb). We can infer the zuffish-kibb is closer to kibb, and that kibbish-zuff is closer to zuff. Thus, the zuffish-kibb one is C, and the kibbish-zuff one is I. (We can figure out that zuffish-kibb is closer to kibb based on analogy to greenish-yellow).

The encyclopedia says "more mellovu makes not sense." The only attribute that cannot be compared is whether or not a horn is present. Mellovu could mean "having a horn" or "not having a horn", but since 2 vloxes have a horn while 7 do not, it must mean "having a horn." Thus, the two mellovu vloxes are A and I. This leaves imxo and mellivu to refer to size. There are two mellivu vloxes, and two definitively small vloxes, so we can infer that they are mellivu = small (B and F). There is one imxo vlox, so we can infer the imxo=large, such that the imxo vlox is I.

A2. The encyclopedia says that vloxes are born completely qliqli and become less qliqli as they age. Qliqli means "having the legs completely unshaded", so the youngest vlox is the one with the least-shaded legs – i.e., D. Its strip points toward tezz, but slightly skewed toward womm, so it would be described as wommish-tezz.