

# Fifth Mirturl Linguistics Open

13 – 19 July 2026

## Individual Contest Problems

### Rules for writing out the solutions

Do not copy the problems. Write down your solution to each problem on a separate sheet or sheets. On each sheet indicate the number of the problem and your contest nickname. Unless stated not to do so, you should describe any patterns or rules that you identified in the data. Otherwise your solution will not be awarded full marks even if the answers are correct.

**Problem 1 (20 points)** Here are some Yohlmo expressions and their English translations in arbitrary order.

- |                            |                                     |                                 |
|----------------------------|-------------------------------------|---------------------------------|
| 1. <b>dzeeba</b>           | 9. <b>mih t̥hukt̥ɕi</b>             | 17. <b>tshawa</b>               |
| 2. <b>khyewa</b>           | 10. <b>ɲyah tshandi</b>             | 18. <b>t̥chu kandi</b>          |
| 3. <b>khyowa khyuk̥ɕo</b>  | 11. <b>pehza dzeezi</b>             | 19. <b>t̥chu khyaaɕo</b>        |
| 4. <b>kyibu phrazi</b>     | 12. <b>piihmi khyukpu</b>           | 20. <b>t̥chu khyaabu</b>        |
| 5. <b>kyibu rahpu</b>      | 13. <b>piihmi zaŋd̥zi</b>           | 21. <b>t̥chu tshandzi</b>       |
| 6. <b>lahpti kan̥ɕo</b>    | 14. <b>rahba</b>                    | 22. <b>t̥huga</b>               |
| 7. <b>mih khyaazi</b>      | 15. <b>saba</b>                     | 23. <b>toh phramu</b>           |
| 8. <b>mih t̥chukpu</b>     | 16. <b>sen khyemu</b>               | 24. <b>toh phraɕo</b>           |
| A. <i>a cheap seed</i>     | I. <i>a somewhat generous woman</i> | Q. <i>How clever!</i>           |
| B. <i>a rich person</i>    | J. <i>a somewhat rich person</i>    | R. <i>How strong!</i>           |
| C. <i>cold water</i>       | K. <i>a somewhat cold person</i>    | S. <i>How hot!</i>              |
| D. <i>thick water</i>      | L. <i>a somewhat clever child</i>   | T. <i>How slim!</i>             |
| E. <i>a strong dog</i>     | M. <i>somewhat hot water</i>        | U. <i>the thickest leaf</i>     |
| F. <i>a diligent woman</i> | N. <i>a somewhat thin dog</i>       | V. <i>the coldest water</i>     |
| G. <i>a hot fish</i>       | O. <i>How cheap!</i>                | W. <i>the most diligent man</i> |
| H. <i>a thin feather</i>   | P. <i>How rich!</i>                 | X. <i>the thinnest feather</i>  |

(a) Determine the correct correspondences.

(b) Translate into English:

- 25. **ɲyah sapu**
- 26. **kyibu dzeeɕo**
- 27. **t̥chu khyezi**
- 28. **zaŋa**

(c) Translate into Yohlmo:

- 29. *the richest man*
- 30. *a somewhat cheap seed*
- 31. *How cold!*
- 32. *a somewhat strong person*

Note: The Yohlmo language belongs to the Tibeto-Burman branch of the Sino-Tibetan language family. It is spoken by approx. 10,000 people in Nepal. **ɲ** is a nasal sound; **ɕ**, **t̥**, and **t̥ɕ** are voiceless consonants; **dz**, **d̥z**, and **z** are voiced consonants; **y** is a consonant. **h** after a consonant indicates aspiration; **h** after a vowel indicates a low tone; double vowels indicate length. The tonal system presented in this problem has been simplified.

—He Jianxing

**Problem 2 (20 points)** Here are some numerical expressions in Salitan Pangasinan, followed by their English translation.

|                           |                       |                         |                                 |
|---------------------------|-----------------------|-------------------------|---------------------------------|
| <b>anemirá</b>            | <i>6 items</i>        | <b>mamínem</b>          | <i>6 times</i>                  |
| <b>anémnemáplo</b>        | <i>only 60 items</i>  | <b>maminpitó</b>        | <i>7 times</i>                  |
| <b>apatalasós tan duá</b> | <i>402</i>            | <b>pínlabinsakéy</b>    | <i>the 11<sup>th</sup> time</i> |
| <b>apátpatíra</b>         | <i>only 4 items</i>   | <b>pípat</b>            | <i>the 4<sup>th</sup> time</i>  |
| <b>duámplo tan limá</b>   | <i>25</i>             | <b>pítpitóra</b>        | <i>only 7 items</i>             |
| <b>duára</b>              | <i>2 items</i>        | <b>sanwawálo</b>        | <i>8 items each</i>             |
| <b>kakawaló</b>           | <i>1 out of 8</i>     | <b>satsamplóra</b>      | <i>only 10 items</i>            |
| <b>kápat kakalimá</b>     | <i>4 out of 5</i>     | <b>siasiamíra</b>       | <i>only 9 items</i>             |
| <b>komasiám</b>           | <i>9<sup>th</sup></i> | <b>talóra</b>           | <i>3 items</i>                  |
| <b>labinapát</b>          | <i>14</i>             | <b>tóñggal siamáplo</b> | <i>90 items each</i>            |
| <b>litlimára</b>          | <i>only 5 items</i>   | <b>walómplo</b>         | <i>80</i>                       |

(a) Translate into English:

1. **anémnemíra**
2. **kalimá kakapitó**
3. **komápat**
4. **siamirá**
5. **tóñggal labintaló**
6. **talónlasós tan apatáplo tan siám**

(b) Translate into Salitan Pangasinan:

7. *516*
8. *5 items each*
9. *17 times*
10. *8 out of 9*



(c) Above shows the Kapampangan expression “**amánuñg sísuan**” written in Kulitan calligraphy. The upper part is “**amánuñg**” and the lower part is “**sísuan**”. Please write the Salitan Pangasinan expression for “9 times” in Kulitan calligraphy.

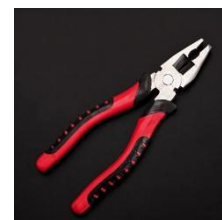
Note: Both Salitan Pangasinan and Kapampangan belong to the Malayo-Polynesian branch of the Austronesian language family. They are respectively spoken by approx. 1,160,000 and 2,800,000 people in Luzon, Phillipines. **ñg** and **y** are consonants. The superscript ‘ indicates stress. Each word with multiple syllables has at least one stressed syllable. The Kulitan script, used across various Philippines languages, features a unique calligraphic art form.

—He Jianxing

**Problem 3 (20 points)** Here are some Taile expressions and their English translations in arbitrary order.

1. **kadaat<sup>2</sup>saaj<sup>4</sup>**
2. **kip<sup>5</sup>sop<sup>2</sup>sɔɔ<sup>1</sup>**
3. **nam<sup>6</sup>paa<sup>1</sup>**
4. **nok<sup>5</sup>ɲæn<sup>2</sup>**
5. **nok<sup>5</sup>ɲæn<sup>2</sup>saaj<sup>4</sup>**
6. **nok<sup>5</sup>dam<sup>1</sup>paa<sup>1</sup>**
7. **nok<sup>5</sup>sɔɲ<sup>1</sup>hoo<sup>1</sup>**
8. **paa<sup>1</sup>sɔɔ<sup>1</sup>**
9. **p<sup>h</sup>ak<sup>2</sup>sum<sup>3</sup>**
10. **sum<sup>3</sup>paa<sup>1</sup>**
11. **wii<sup>1</sup>hoo<sup>1</sup>**

- A. *kingfisher*
- B. *seagull*
- C. *tiger fish*
- D. *plier*
- E. *sandpaper*
- F. *comb*
- G. *pickled vegetable*
- H. *pickled fish*
- I. *swallow (bird)*
- J. *servant of two masters*
- K. *fish sauce*



(a) Match (1-11) with (A-K).

12. **kaj<sup>2</sup>ɲoɲ<sup>4</sup>**
13. **kaj<sup>2</sup>tɔn<sup>1</sup>**
14. **mæɲ<sup>4</sup>maap<sup>5</sup>mɛɲ<sup>1</sup>**
15. **mæɲ<sup>4</sup>ɲoɲ<sup>4</sup>**
16. **muu<sup>1</sup>saam<sup>1</sup>cæn<sup>6</sup>**
17. **pet<sup>2</sup>kaj<sup>2</sup>muu<sup>1</sup>maa<sup>1</sup>**
18. **p<sup>h</sup>ak<sup>2</sup>wæn<sup>5</sup>**
19. **saam<sup>1</sup>xaa<sup>1</sup>**
20. **wæn<sup>5</sup>sɔɲ<sup>1</sup>cæn<sup>6</sup>**
21. **xaj<sup>2</sup>pet<sup>2</sup>xaj<sup>2</sup>kaj<sup>2</sup>**
22. **xew<sup>3</sup>maa<sup>1</sup>**

- L. *eggs (in general)*
- M. *duckweed*
- N. *turkey*
- O. *livestock*
- P. *canine tooth*
- Q. *tripod*
- R. *bifocals*
- S. *pork belly*
- T. *castrated chicken*
- U. *firefly*
- V. *octopus*



(b) Match (12-22) with (L-V).

(c) Translate into English:

23. **kadaat<sup>2</sup>**
24. **maap<sup>5</sup>mɛɲ<sup>1</sup>maap<sup>5</sup>mɛɲ<sup>1</sup>**
25. **muu<sup>1</sup>tɔn<sup>1</sup>**
26. **xew<sup>3</sup>wii<sup>1</sup>**

(d) Translate into Taile:

27. *animal, insect*
28. *river mouth*
29. *elephant trunk*
30. *duck*
31. *plant, vegetable*

Note: The Taile language belongs to the Kra-Dai language family. It is spoken by approx. 700,000 people in China, Myanmar, Laos, Thailand, and Vietnam. **ɔ**, **ɔ**, **æ**, and **aj** are vowels; **ɲ**, **p<sup>h</sup>**, and **ɲ** are consonants. Double vowels indicate length. Superscript numbers indicate tones.

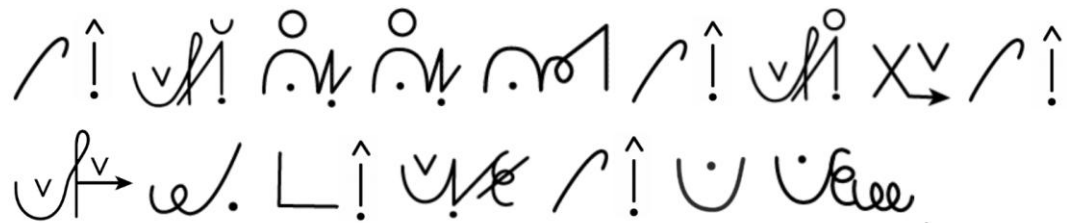
A *kingfisher* is a bird that often lives near water and catches small fish. A *duckweed* is a kind of floating plant, often found in still water. A *canine tooth* is a tooth shaped like a dog's pointed tooth. *Livestocks* are animals kept by humans. A *tripod* is a stand with three legs used to support an object. *Bifocals* are eyeglasses with two focal areas, usually for seeing both far away and nearby. *Pork belly* is pork with alternating layers of fat and lean meat and with the skin attached.

**No additional explanation is required, nor will be marked.**

—He Jianxing, Su Tong

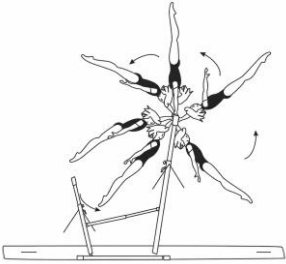
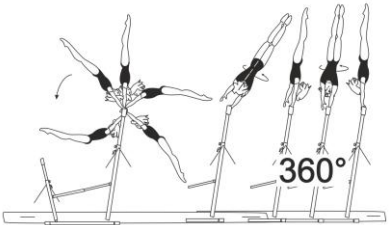
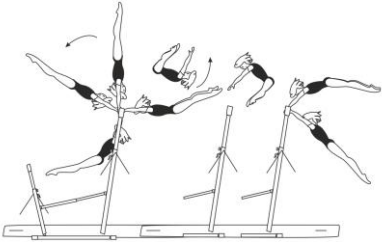
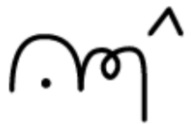
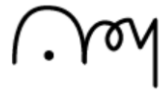
**Problem 4 (20 points) [The necessary video materials are provided on the website]**

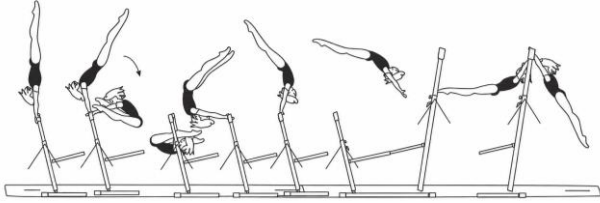
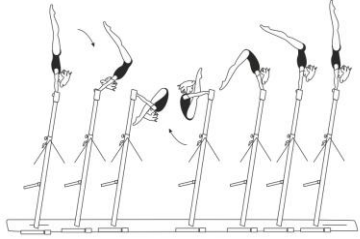
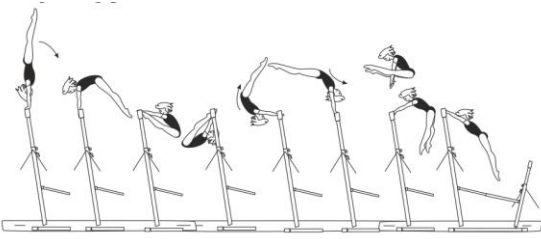
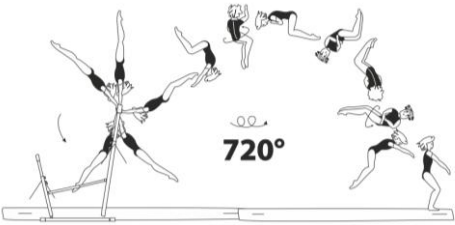
The compressed folder contains the video (I) of one athlete's routine from the Women's Uneven Bars Final in Artistic Gymnastics at the 2024 Paris Olympic Games. The corresponding symbol notation of the routine is provided below.



Below are illustrations of some skills on the uneven bars, along with their corresponding symbols.

(a) Fill in the blanks:

| Skill                                                                               | Symbol                                                                                |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|   |  |
|  | (1)                                                                                   |
|  |  |
| (2)                                                                                 |  |

|                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |   |
|    | (3)                                                                                  |
|    |   |
| (4)                                                                                 |  |
|  | (5)                                                                                  |

(b) The compressed folder contains the video (II) of another athlete's routine from the Women's Uneven Bars Final in Artistic Gymnastics at the 2024 Paris Olympic Games. Please write down the corresponding symbol notation of the routine.

Note: Artistic gymnastics is one of the most popular sports at the Summer Olympic Games. Women's Artistic Gymnastics consists of four apparatus: vault, uneven bars, balance beam, and floor exercise. Compared with Men's Artistic Gymnastics, Women's Artistic Gymnastics places greater emphasis on artistry, balance, and coordination. World Gymnastics establishes the Code of Points for artistic gymnastics and governs international-level competitions.

In 1979, the symbol notation system for artistic gymnastics was introduced by the Women's Technical Committee. Since then, it has been continuously updated and refined alongside the development of the sport. Used widely in all gymnastics competitions, the system provides judges with an efficient tool for recording gymnasts' performances and establishes a unified international standard.

—Su Tong

**Problem 5 (20 points)** Here are some verb phrases in Komnzo, followed by their **only possible** English translation.

|                   |                                    |
|-------------------|------------------------------------|
| <b>äfathwré</b>   | <i>I catch him for them</i>        |
| <b>efathn</b>     | <i>He catches the two of them</i>  |
| <b>emigwr</b>     | <i>He hangs them</i>               |
| <b>eräzn</b>      | <i>The two of them stand</i>       |
| <b>nthorakwr</b>  | <i>We arrive</i>                   |
| <b>yamigwr</b>    | <i>He hangs him for him</i>        |
| <b>yfathnth</b>   | <i>The two of them catches him</i> |
| <b>yfathwr</b>    | <i>He catches him</i>              |
| <b>yfsinzré</b>   | <i>I count him</i>                 |
| <b>ymsakne</b>    | <i>The two of us seat him</i>      |
| <b>yräzr</b>      | <i>He stands</i>                   |
| <b>wothorakwr</b> | <i>I arrive</i>                    |

**(a)** Provide all possible English translations.

1. **efathnth**
2. **efsinzrth**
3. **eräzr**
4. **ämigwrth**
5. **nthorakn**

**(b)** Translate into Komnzo:

6. *He seats them*
7. *I catch the two of them*
8. *We count him*
9. *We stand*
10. *They catch him for them*

Note: The Komnzo language belongs to the Yam language family. It is spoken by approx. 250 people in Rouku village and the town of Morehead in the Western Province of Papua New Guinea.

**ä** = *a* in *cat*. **é** = *e* in *the*. **th** and **y** are consonants. “*We/Them*” refers to three or more people, as opposed to “*the two of us/them*.”

The grammar presented in this problem has been simplified.

—He Jianxing

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Good luck!