

(Q) Pluses and Minuses (1/2) [15 points]

The Khakas language is a Siberian Turkic language that is spoken by about 52,000 people in the southern Siberian autonomous Russian republics of Khakassia and Tuva. It is normally written in Cyrillic, but has been transliterated here.

The unfamiliar symbols are pronounced roughly as follows:

- č is like the ch in ‘church’ (IPA [tʃ])
- ğ is like the ch in ‘loch’ or German ‘Bach’, but voiced, as in Dutch (IPA [ɣ])
- ŋ is like the ng in ‘sing’
- y is like the vowel in ‘see’
- ÿ is like the French vowel ‘u’ or German ‘ü’, pronounced like ‘ee’ but with the lips rounded
- ɯ is a vowel pronounced like ‘urgh’, like ‘oo’ but with the lips spread
- ö is somewhat like the first vowel in ‘colonel’ (IPA [ø])

Answer these questions in the Answer Sheets.

Q1. Given are arithmetic equations in the Khakas language written in transliteration. All numbers are given as fractions in which no numerator or denominator is greater than 20, and no denominator is equal to 1. All the numbers are positive. Rewrite the equations using numbers.

- sygizniŋ piri + iki sygistig = sygizniŋ ýzi
- čyti ýstig + altunwŋ piri = iki pýdin pir ikilig
- iki toğwstuğ + toğwznwŋ piri = iki altuluğ
- pys pystig + čytiniŋ piri = pir pýdin pir čytılıq
- čytiniŋ ikizi + iki pystig = 24/35
- altunwŋ ikizi + toğwznwŋ piri = sygis on sygistig
- pir törttig – ýs čybırgılıq = pir onnwğ

a.

b.

c.

d.



(Q) Pluses and Minuses (2/2)

e.

f.

g.

Q2. Write the following numbers in Khakas:

- a. 4
- b. 15
- c. 23

a.

b.

c.

Q3. What is the meaning of the Khakas word pÿdin?

Q4. Explain your answer.

