# My favourite problems

Below you can find some expressions written in Basque and in reconstructed Iberian numbers. Linguists were astonished to encounter some striking similarities between these two languages. In the following, the Basque names are mixed together with the Iberian reconstructions.

$$ork\acute{e}iba\acute{r}ban = hogeita\ lau + sisbi \tag{1}$$
$$aba\acute{r}\acute{s}ei = lau^{bi} \tag{2}$$
$$hamabi + laur = hamasei \tag{3}$$
$$hogei = irur \times sisbi - bat \tag{4}$$
$$hiru \times irur + ban = bi \times borste \tag{5}$$
$$laur \times bost = ork\acute{e}i \tag{6}$$
$$ork\acute{e}i - hamar = hiru + zazpi \tag{7}$$
$$aba\acute{r}kebi + hiru = hamabost \tag{8}$$
$$borste < zazpi \tag{9}$$

**(a)** Rewrite the expressions from 1 to 9 in numerals.

**(b)** Find the corresponding names in both languages for the numbers from the following set $\{1, 2, ..., 7, 10, 20\}$. One number has just one form in both languages. [*9 points*]

⚠ Iberian belonged to an unclassified language family and was spoken on the Mediterranean coast of the Iberian Peninsula. It became extinct around 1st–2nd century AD.

Basque is considered to be a language isolate. It is spoken in the Basque Country in the north of Spain and the south of France by approx. 750 000 native speakers (2016).

Note that **ŕ** and **r** as well as **ś** and **s** should be treated as two distinct consonants.

—*Michał Boroń*

## The Hardest Problem

This very hard problem does have a name. Yet, it doesn't have an author.

**(a)** This is the first task with no points indicated.

⚠ This is my favourite language spoken in X by Y speakers.