

Problem 2 (25 marks)

Below you see arithmetic equalities written in Egyptian Arabic¹. All summands, as well as all sums except the last one, are represented as fractions in which neither the numerators nor the denominators are greater than 10, nor is any denominator equal to 1:

$$tumn + tumn\bar{e}n = talatt itm\bar{a}n \quad (1)$$

$$sabast itl\bar{a}t + suds = sašart irb\bar{a}s \quad (2)$$

$$tus\bar{s}en + tus\bar{s} = suds\bar{e}n \quad (3)$$

$$xamast ixm\bar{a}s + sub\bar{s} = tamant isb\bar{a}s \quad (4)$$

$$sub\bar{s}en + xums\bar{e}n = \frac{24}{35} \quad (5)$$

Assignment 1. Write these equalities in figures.

Assignment 2. The equality $rub\bar{s} + sašart its\bar{a}s = sabast isd\bar{a}s$ is missing a sign.
Which one?

Note: The letter \check{s} is pronounced as English *sh*, x as the *ch* in *loch*; \bar{s} is a specific Arabic consonant. A bar above a vowel indicates length. (Ivan Derzhanski)