

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:

$$tum̄n + tum̄nēn = talatt itmān \quad (1)$$

$$saba\varsigma itlāt + suds = \varsigma a\check{s}art irbā\varsigma \quad (2)$$

$$tus\varsigma ēn + tus\varsigma = sudsēn \quad (3)$$

$$xamast ixmās + sub\varsigma = tamant isbā\varsigma \quad (4)$$

$$sub\varsigma ēn + xumsēn = \frac{24}{35} \quad (5)$$

Assignment 1. Write these equalities in figures.

Assignment 2. The equality $rub\varsigma + \varsigma a\check{s}art itsā\varsigma = saba\varsigma isdās$ is missing a sign. Which one?

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