

**Problem 4 (20 points).** Here are some Ngkolmpu numbers:

- 1 aempty
- 8 ynaoaempty ptae
- 17 tamp tarwmpao
- 21 ylla ntamnao
- 35 tamp ptae wramaekr
- 64 eser wramaekr ptae
- 167 tamp ntamnao ptae eser
- 294 tarwmpao ptae ptae ynaoaempty
- 504 tarwmpao ynaoaempty ptae ynaoaempty

(a) Two of the Ngkolmpu numbers above can each be interpreted one additional way not given.

- Which are these numbers?
- What are their alternative interpretations?

(b) Below are some arithmetic equalities expressed in Ngkolmpu. All numbers that appear in the equalities are positive integers.

$$\begin{aligned}[1] \text{tamp ptae wramaekr ptae tamp} - \text{eser ntamnao} &= \underline{\hspace{2cm}} \text{ (A)} \\ [2] \text{ylla ptae ylla} + \underline{\hspace{2cm}} \text{ (B)} &= \text{tarwmpao} \\ [3] \text{ntamnao ptae} \times \text{eser wramaekr} &= \text{ntamnao ntamnao} + \underline{\hspace{2cm}} \text{ (C)} \end{aligned}$$

Fill in the blanks (A–C) and write the equalities in numerals.

⚠ (C) < 200

(c) Give all possible interpretations of the following number:

**tarwmpao ylla ptae**

⚠ Ngkolmpu belongs to the Yam family. It is spoken by approx. 100 people in Papua province, Indonesia.  
— Ji Hun Wang, Minkyu Kim

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