

Problem 3 (20 points). Here are four different representations of a certain number:

Somali language (Latin script)	toddoba iyo sagaashan
Somali language (Osmanya script)	٩٨٦ ٣٨٩٩٥٢
Osmanya numerals	٤٣
Arabic numerals	97

Below are ten arithmetic equalities written using the four types of systems shown above with some parts left blank. All the numbers that appear in the equalities are integers.

- [1] $٣٥٠٠٦ + J = ٥٠$
- [2] $C \times \text{siddeed boqol} = ٩٨٠٠$
- [3] $٥٥ \times ٩٨٦ \times A = ٥٨٦$
- [4] $٩٨٦ + \text{sagaal iyo sagaashan} = \text{boqol}$
- [5] $٦٦ \times ٣٤٦٧٦٦ = C \times \boxed{}$
- [6] $٦ \times \boxed{} = ٣٤٦٧٩٨٦ \times ٦٦$
- [7] $٣٤٦٧٧٦٦٦٦ ٩٨٦ ٩٦٦ ٣٩٠٠٦٦٦ \times ٧٧٦ = \text{rug}$
- [8] $٣٨٩٦ \times \boxed{} = ٩٨٦ + \text{koob iyo toddobaatan}$
- [9] $٣٩٠٠٦٦٦٦ ٩٨٦ ٩٦٦ ٣٩٦٦٦ \times ٦٦ = ٦٦ + \text{lix boqol iyo koow}$
- [10] $٦٦ ٩٨٦ ٩٦٦ ٩٨٦ ٦٦ ٩٦٦ = ٢٠٢١ = \boxed{}$

(a) Fill the blanks (A–D) in Osmanya numerals.

(b) Write the equalities [1–9] in Arabic numerals.

(c) Write in Somali (Latin script):

E. 401 F. ٦٦٦٦ G. ٩٨٦ ٩٦٦ ٩٨٦ ٩٦٦ ٣٩٠٠٦٦٦

(d) Write in Somali (Osmanya script):

H. ٧١ I. ٦٦٦٦ J. saddex iyo afartan

(!) No additional explanation besides the answers is required, nor will be marked.

⚠️ Somali belongs to the Cushitic branch of the Afro-Asiatic family. It is spoken by approx. 1,600,000 people in East Africa, mainly in Somalia and Djibouti.

The Osmanya script is a writing system that was created between 1920 and 1922 to transcribe the Somali language. In 1961, it was recognized as one of the official scripts by the Somali government. Nowadays, it is mostly substituted by the Latin script. —Minkyu Kim