Name of Competition: Municipal Round of the Olympiad in Mathematical Linguistics.

Area: Linguistics.

Scale: Municipal.

Venues: schools.

Time: a Saturday or Sunday in late February.

Target Group: <u>forms 5–7</u>, <u>forms 8–10</u> and <u>forms 11–12</u>. The municipal round is **individual** and **inclusive** (open to all who wish to participate).

Style: classical (problem-solving). The set, for which 4 hours are given, consists of three problems. A suggested set is chosen by the National Committee and sent out, along with guidelines for marking, to the municipalities (through the Ministry of Education and Science). Usually in this set the middle group shares one problem with the junior group and one or two with the senior group, and each group may be assigned one problem in logic rather than linguistics. However, the local organisers are free to use problem sets of their own composition.

Marking: performed locally by the organisers.

History: Held annually since 2003.

Financial Basis: Supported by the Ministry of Education and Science.

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Problem (forms 5–7, 2007; Bozhidar Bozhanov). The wrapping of a candy bar bears information on the product, incl. date of production, 'best before' date and netto weight, in the Arabic numerals that we know and in some other script:

Date of production:	Best before:	Netto:
10-07-06	08-04-07	20.5g
٢٠٠٦/٠٧/١٠	٢٠٠٧/٠٤/٠٨	غ٢٠.٥

Write in the unknown script:

45g;   **05-02-07**.

Solution: The unknown language is Arabic actually. The digits it uses are different from the ones we refer to as Arabic because the Europeans borrowed them from the Arabs nearly eight centuries ago and they have changed somewhat in both Europe and Arabia since then. (The Arabs themselves call them Indian, having got them from India.)

By comparing the records we can determine which digit is which, and also note the following peculiarities:

- in the Arabic numbers the digits are written left to right, as in the European ones, but in the dates the year is on the left and the day is on the right, contrary to European usage;
- in the year the first two digits (20) aren't omitted as in the European notation (not really a constant feature of either system);
- the decimal point is the same, and the counterpart of 'g' (grammes) is the letter غ (most likely the first letter of the Arabic word 'gramme') to the left of the number.

We write: 45g — غ٤٥; 05-02-07 — ٢٠٠٧/٠٢/٠٥.