CYPRUS MATHEMATICAL SOCIETY
REGIONAL COMPETITION
NOVEMBER 2026

PRIMARY - LEVEL 5

Date: 07/11/2026 *Time: 10:00 -12:00*

INSTRUCTIONS

1. Solve all the problems fully justifying your answers.
2. Each problem is worth 10 points.
3. Write with blue or black ink (Shapes can be drawn with pencil).
4. The use of corrective liquid (Tip-Ex) is not allowed.
5. The use of a calculator is not allowed.

PROBLEMS

Problem 1

On a trip, there are 3 accompanying adults for every 25 children. A total of 224 people take part.

a) How many children and how many accompanying adults are there?

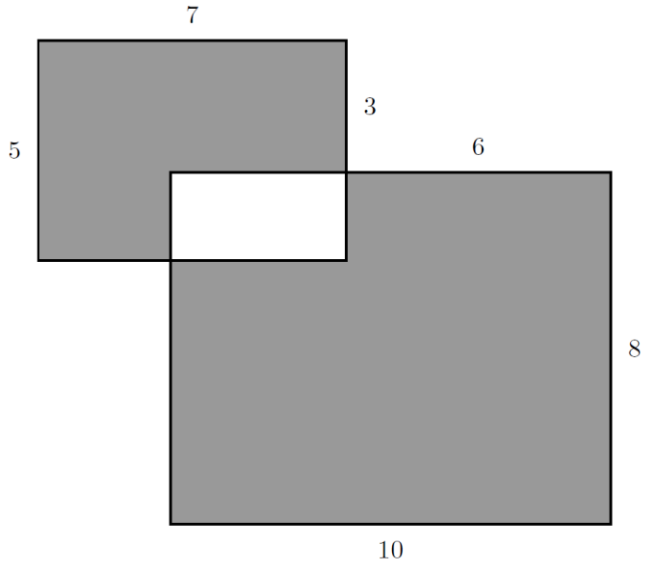
b) Each child pays an amount in euros equal to $\frac{2}{5}$ of the number 20.

The accompanying adults do not pay. How much money is collected in total?

c) After the expenses have been paid, one quarter of the money collected remains. If the expenses were 6 × A euros, find A.

Problem 2

The diagram shows two overlapping rectangles. Their common region is white, while the remaining regions are shaded grey. Calculate the total area of the grey regions in cm². All dimensions are given in cm.



Problem 3

The word MHTEPA below represents a 6-digit number, which is multiplied by a single-digit number A and results in a six-digit number BBBBBB. The same letter always represents the same numerical digit, and different letters represent different digits. Specify the numerical digit corresponding to each letter. Fully justify your way of thinking.

$$\begin{array}{r} MHTEPA \\ \times \quad A \\ \hline BBBBBB \end{array}$$

Problem 4

Two players, John and Nick, play a game with 20 marbles on a table. The rules are as follows:

- The players take turns (one player followed by the other).
- On each turn, a player may remove 1, 2, or 3 marbles from the table (a player cannot remove more than 3 marbles).
- The player who takes the last marble remaining on the table loses.

If John plays first, how many marbles should he remove on his first turn, and what strategy should he follow thereafter to be certain of winning, regardless of what Nick does? Give a winning strategy.