



CYPRUS MATHEMATICAL SOCIETY
NATIONAL COMPETITION
DECEMBER 2017

PRIMARY – LEVEL 5

Date: 02/12/2017

Time: 09:30 -11:30

INSTRUCTIONS

1. Solve all the problems by giving full answers.
2. Each problem is marked with 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.

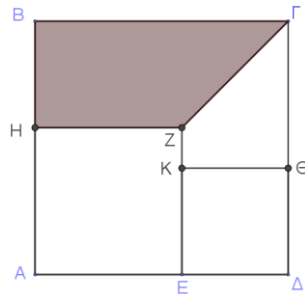
PROBLEMS

Problem 1

In a theatre the normal ticket costs €3.50 more than a children's ticket. Find the price for each ticket if we know that 4 normal tickets and two children's tickets have a total cost of €92.

Problem 2

In the figure below, inside the square $AB\Gamma\Delta$ there are two squares $AHZE$ and $E\Theta\Delta$ with areas $25m^2$ and $16m^2$ respectively. Find the area of the shaded region $B\Gamma ZH$.



Problem 3

When a jar is filled halfway with jam it weighs 3, 4kg. When the jar is $\frac{1}{4}$ full of jam weighs 2, 6kg. What is the weight when it is filled 100% with jam?

Problem 4

Mary wants to fill a board with dimensions 216cm x 120 cm with square pixels. What is the smallest number of pixels that should be used to fully cover the board, without breaking any pixels?