



**CYPRUS MATHEMATICAL SOCIETY  
REGIONAL COMPETITION  
NOVEMBER 2017**

**PRIMARY – LEVEL 6**

*Date: 11/11/2017*

*Time: 10:00 -12:00*

**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**

Calculate the value of the expression

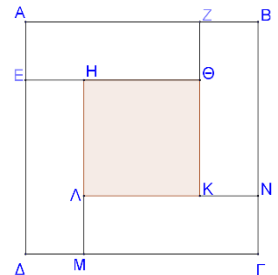
$$\frac{2+3}{2 \times 3} - \frac{3+4}{3 \times 4} + \frac{4+5}{4 \times 5} - \frac{5+6}{5 \times 6} + \dots + \frac{98+99}{98 \times 99} - \frac{99+100}{99 \times 100}$$

**Problem 2**

In a school there are 208 people. The boys are twelve times more than the teachers and there are 8 girls more than boys. Calculate the number of boys, the number of girls and the number of teachers.

**Problem 3**

Each of the four equal rectangles,  $AZ\Theta E$ ,  $ZBNK$ ,  $NTMA$  and  $EHM\Delta$  has length three times its width and has a perimeter of 20cm. Find the area of the square  $H\Theta K\Lambda$ .



**Problem 4**

Draw in your answer sheet the cube of the following figure. Place on each of the vertices of the cube, one of the digits 1, 2, 3 ... 9. Each digit can only be used once and the sum of the digits of each face is 18. Which of the digits will not be used?

