



CYPRUS MATHEMATICAL SOCIETY  
REGIONAL COMPETITION  
NOVEMBER 2017

PRIMARY – LEVEL 5

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**

α) If  $X = 1 + 3 + 5 + \dots + 999$  and  $\Psi = 2 + 4 + 6 + \dots + 1000$   
calculate the value of the expression  $\Psi - X$

β) Calculate the product

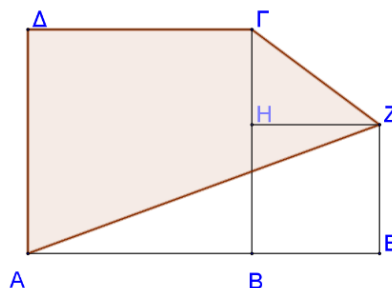
$$\left(1 + \frac{1}{3}\right) \times \left(1 + \frac{1}{4}\right) \times \left(1 + \frac{1}{5}\right) \times \dots \times \left(1 + \frac{1}{100}\right) \left(1 + \frac{1}{101}\right)$$

**Problem 2**

Zenon, Theodore and Christine meet on a Sunday in the park. Zenon goes to the Park every 6 days, Theodore every 8 days and Christine every 9 days. What day of the week would it be the next time all three of them meet in the Park.

**Problem 3**

The area of the square  $AB\Gamma\Delta$  is  $121\text{cm}^2$  and the area of the square  $BEZH$  is  $64\text{cm}^2$ . Find the area of the shaded quadrilateral  $AZ\Gamma\Delta$ .



**Problem 4**

Four children  $A, B, \Gamma, \Delta$  are on a field trip. Child a has 6 chocolates, Child B has 8 chocolates and the Child C has 10 chocolates while Child D doesn't have any chocolates. They decided to share equally all chocolates and Child D to pay €18. How will the three children A, B and C will share the €18?