

Grade 6

Problem №1.

The numbers shown on the right side of each row and at the bottom of each column represent the sum of the numbers in those corresponding rows and columns. What is the value of X, the sum of all numbers in the second row?

A	B	A	A	37
A	C	B	B	X
A	C	A	C	66
30	53	27	40	

Problem №2.

Two consecutive sides of a rectangle have lengths of $3a-b$ and $2a+3b$. Given that $a=1$ and the perimeter of the rectangle is 18 cm, what is the area of the rectangle?

Problem №3.

If we reverse the digits of a two-digit positive integer and subtract the resulting integer from the original integer, the difference is 36. What is the positive difference between the two digits?

Problem №4.

A six-digit number can be made by writing the same two-digit number three times. For example, the six-digit number 121,212 is made by writing the two-digit number 12 three times. How many such six-digit numbers are there between 500,000 and 1,000,000?

Problem №5.

Oscar is asked to choose from the following list of three-digit numbers:

719, 222, 100, 451, 989

If he must subtract his three-digit number from 3000 and then triple the result, which of the 5 three-digit numbers should he choose so that his final result is the **greatest** possible?

Problem №6.

Find the remainder when the product $1492 \times 1776 \times 1812 \times 1996$ is divided by 5.

Problem №7.

If an integer N is divided by 6, the remainder is 5. What is the remainder if nine times this integer, $9N$, is divided by 6?

Problem №8.

In a circle of music lovers, 14 people play the piano or violin, 8 people are violin players, and 5 play both instruments. Find the number of piano players.