



Calculus problems

1. If $a+b+c+d=1+3+5+\dots+4031$ then number $2016 \cdot 2017 - a - b - c - d$ is:

a)0 b)2017 c)2016 d)2016²

2. The ascending order of the numbers $A=5^{210}$, $B=2^{490}$, $C=11^{140}$ is:

a) $C < A < B$ b) $A < C < B$ c) $B < A < C$ d) $C < B < A$

3. The digits of the natural number \overline{ab} verify that $a \cdot (3b+2) = 30$. Then their sum is:

a)5 b)11 c)7 d)19

Logical problems

1. The next number of the following sequence: 3;6;11;20;37;70..... is

a)72 b)140 c)135 d)128

2. Michael has 3 parrots: Coco, Kiki and Riko, each of a different color, yellow, blue and orange, and of a different age, one, two and three years old. What is the name of the orange parrot and how old is it, if Riko is blue and it is not 2 years old where as Kiki is 3 years old and it is not yellow?

a) Riko, 2 b) Coco, 1 c) Kiki, 3 d) Riko,1

3. In a box there are balls in three colours: white, red and green. Exactly 40 of them are not green and exactly 25 are not red. There are twice as many red balls as green ones. The number of white balls inside the box is:

a)15 b)10 c)40 d)12

Practical applications

1. A dress costs 400 lei. Its price, after a 10% raise followed by a 10% discount, will be:

a)396lei b)400 lei c)440lei d)356lei



First and last name of the student

2. The password of a credit card has 4 digits, 3 of which are identical. How many passwords of this kind could there be?

a)400 b) 9^3 c)360 d)300

3. If a square-shaped lot of land has a surface of 900 m^2 , how many metres of wire are required to surround the fence 5 times?

a)240m b)4500m c)150m d)600m