Grade 8

Problem №1.

The pages of a three-volume encyclopedia are numbered consecutively, starting with page 1, and each of the three volumes has the same number of pages. If the sum of the page numbers on the fifth page of each volume is equal to 1335, how many pages are there in each volume of the three-volume encyclopedia?

Problem №2.

The letters **A, B, C, D, E, F, G,** and **H** each represent a positive natural number. It is known that the sum of each consecutive group of four values is 41.

Given that B+G=16**,** what is the **largest possible value** of A?

Problem №3.

What is the sum of prime factors of 2010?

Problem №4.

In 2012, the sum of the ages of Melinda and her parents was 86 years. Six years later, the ratio of their ages, in the order of

FATHER : MOTHER : MELINDA is 6 : 5 : 2

How old was Melinda's father when Melinda was born?

Problem №5.

Find the value of k so that $x + 3$ is a factor of $3x^3 + kx^2 - 7x + 6.$

Problem №6.

The students in Mrs. Reed's English class are reading the same 760-page novel. Three friends, Alice, Bob and Chandra, are in the class. Alice reads a page in 20 seconds, Bob reads a page in 45 seconds and Chandra reads a page in 30 seconds. If Bob and Chandra both read the whole book, Bob will spend how many more seconds reading than Chandra?

Problem №7.

Reo selects **three different numbers** from the number set below:

$\{-7, -5, -4, -3, -2, -1, 0, 2, 4, 6, 8\}$

He then multiplies his three numbers to find their product.

What is the **largest possible product** that Reo can have as a result?

Problem №8.

The mean of a set of numbers is 64 and their sum is 448. How many numbers are there in the set?

2