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MathEdge Level contest wins big

by Ewa Garg

An amazing fifth grader, Alvin Zhou, from Mission Valley School in Fremont, placed first in the MathEdge intermediate level contest held on May 7. Around 50 students participated in the contest.

Alvin, scored 18 1/2 points out of 20 in the contest. Besides a first place trophy, he also won a week of summer camp. Namrata Garg tied with Amanda Chow for second place by scoring 17 points. Donna Tran placed fourth with 16 points.

MathEdge Level Contest tested in problem solving and creative thinking skills. One sample problem is shown below:

The average of the nine numbers in the set {9, 99, 999, 9999, . . . , 999999999} is a 9-digit number A, all of its digits are distinct. Which is the digit out of the ten digits: "0, 1, 2, 3, 4, 5, 6, 7, 8, 9" A does not contain?
ANS: 0
SOL: Average/mean is defined as the sum of the numbers then divided by the total number in the sum. Thus, the number A is equal to:
1/9 (9 + 99 + 999 + . . . + 999,999,999) = 1 + 11 + 111 + . . . + 111,111,111
= 123,456,789. The number A does not contain the digit "0".