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**SYNOPSIS**

385 The Academy Corner: No. 28    *Bruce Shawyer*

A Trial Balloon, by *Vedula N. Murty*

Bad Cancellations

Questions on Mathematicians

387 The Olympiad Corner: No. 201    *R.E. Woodrow*

Featuring Thirty-first Canadian Mathematical Olympiad 1999, the questions as well as selected solutions by the contestants; the 28<sup>th</sup> United States of America Mathematical Olympiad; selected problems of the 1996 Ukrainian Mathematical Olympiad; the XII Italian Mathematical Olympiad, 1996; the problems of the 1995 South African Mathematics Olympiad, Third Round; the problems of the Taiwan Olympiad, 1996; the problems of the 1996 Croatian National Mathematics Competition, Kraljevica, IV Class and IMO Team Selection Competition; and an alternative solution to that given earlier this year to problem 5 of the 1994 Iranian Olympiad.

401 Book Review    *Alan Law*

Calculus, The Dynamics of Change, by *A. Wayne Roberts*

Reviewed by *Jack W. Macki*, University of Alberta, Edmonton, Alberta.

403 The Skoliad Corner: No. 41    *R.E. Woodrow*

Featuring Final Round Parts A and B of the 1998 British Columbia Colleges Senior High School Mathematics Contest; and the “official solutions” to the 1998 British Columbia Colleges Junior High School Mathematics Contest.

415 Mathematical Mayhem

413 Shreds and Slices

A Combinatorial Proof of a Trigonometric Identity, by *Douglass Grant*.

415 Mayhem Problems

415 High School Problems **H253, H261–H264**

416 Advanced Problems **A237–A240**

416 Challenge Board Problems **C89–C90**

417 Problem of the Month *Jimmy Chui*

418 J.I.R. McKnight Problems Contest 1991

420 IMO Report

421 Stan Wagon's e-mail problem of the week

422 An Identity of a Tetrahedron

*Murat Aygen*

Here is given a solution to the problem: Let  $ABCD$  be a tetrahedron with sides  $a = BC$ ,  $b = AC$ ,  $c = AB$ ,  $a_1 = AD$ ,  $b_1 = BD$ , and  $c_1 = CD$  (see Figure 1(a)). Let  $V$  and  $R$  denote the volume and circumradius of the tetrahedron, respectively. Show that  $6VR$  equals the area of the triangle with sides  $aa_1$ ,  $bb_1$ , and  $cc_1$ .

426 A Simple Proof of a Pentagon Theorem

*Geoffrey A. Kandall*

We will give a short, transparent proof of Eiji Konishi's pentagram theorem, which was communicated by Hiroshi Kotera [1998, 291–295]. The proof is really just an exercise in the Law of Sines.

428 Problems: 2452–2453, 2476–2488

This month's "free sample" is:

**2482.** *Proposed by Mihály Bencze, Brasov, Romania.*

Suppose that  $p$ ,  $q$ ,  $r$  are complex numbers. Prove that

$$|p + q| + |q + r| + |r + p| \leq |p| + |q| + |r| + |p + q + r|.$$

432 Solutions: 2370–2372, 2375–2377, 2380–85, 2388, 2392–2393