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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 28th 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.
Mathematical Mayhem

Shreds and Slices
A Combinatorial Proof of a Trigonometric Identity, by Douglass Grant.

Mayhem Problems

High School Problems H253, H261–H264
Advanced Problems A237–A240
Challenge Board Problems C89–C90

Problem of the Month Jimmy Chui

1.1.1. R. McKnight Problems Contest 1991

IMO Report

Stan Wagon’s e-mail problem of the week

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 \( cc_1. \)

A Simple Proof of a Pentagram 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.

This month’s “free sample” is:

2482. Proposed by Mihály Bencze, Brasov, Romania.
Suppose that \( p, q, r \) are complex numbers. Prove that
\[
|p + q| + |q + r| + |r + p| \leq |p| + |q| + |r| + |p + q + r|.
\]

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