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SYNOPSIS

193 The Academy Corner: No. 25 *Bruce Shawyer*

Abstract of the talks at the 1998 Canadian Undergraduate Mathematics Conference, held at the University of British Columbia in July 1998. (Part 3)

196 The Olympiad Corner: No. 198 *R. E. Woodrow*

Featuring the XXXIX Republic Competition of Mathematics in Macedonia; the Problems of the Third Macedonian Mathematical Olympiad; the Ninth Irish Mathematical Olympiad; readers' solutions to problems of the 30th Spanish Mathematical Olympiad; solutions to two problems from Peru's Selection Test for the XII IberoAmerican Olympiad; and readers' solutions to problems from the third grade of the 38th Mathematics Competition of the Republic of Slovenia.

210 The answer to the February 1999 Challenge is $\frac{1}{2}$, but why?

211 Book Review *Alan Law*

Elementary Mathematical Models by *Dan Kalman*

Reviewed by *Richard Charron*, Memorial University of Newfoundland.

Principles of Mathematical Problem Solving by *Martin J. Erickson and Joe Flowers*

Reviewed by *Christopher Small*, University of Waterloo.

214 The Skoliad Corner: No. 38 *R. E. Woodrow*

Featuring the Newfoundland and Labrador Senior Mathematics League, Game #1 for 1998–99; the official solutions to the Alberta High School Mathematics Competition, Part I, November 1998; and an alternate “variable free” solution to a problem of the Old Mutual Mathematics Olympiad 1991.

221 Mathematical Mayhem

221 Shreds and Slices

A Combinatorial Proof is given in response to the March challenge.

222 Mayhem Problems

222 High School Solutions **H228, H237–H240**

226 Advanced Solutions **A212–A216**

230 Challenge Board Solutions **C77**

233 Problem of the Month *Jimmy Chui*

235 Four Ways to Count *Jimmy Chui*

Four ways to evaluate $\binom{n}{1} + 2\binom{n}{2} + 3\binom{n}{3} + \cdots + n\binom{n}{n}$.

238 Problems: 2438—2450

This month's "free sample" is:

2446. *Proposed by Catherine Shevlin, Wallsend upon Tyne, England.*

A sequence of integers, $\{a_n\}$ with $a_1 > 0$, is defined by

$$a_{n+1} = \begin{cases} \frac{a_n}{2} & \text{if } n \equiv 0 \pmod{4}, \\ 3a_n + 1 & \text{if } n \equiv 1 \pmod{4}, \\ 2a_n - 1 & \text{if } n \equiv 2 \pmod{4}, \\ \frac{a_n+1}{4} & \text{if } n \equiv 3 \pmod{4}. \end{cases}$$

Prove that there is an integer m such that $a_m = 1$.

(Compare **OQ.117** in *OCTOGON*, vol 5, No. 2, p. 108.)

241 Solutions: 2329, 2337—38, 2340—45, 2347, 2349—50