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SYNOPSIS

1 Welcome / Bienvenue

A welcome to the the “new” journal.

3 The Academy Corner: No. 8 *Bruce Shawyer*

Featuring the First Day paper of the 1996 International Competition for University Students in Mathematics, written in Provdiv, Bulgaria.

6 The Olympiad Corner: No. 181 *R.E. Woodrow*

Featuring the Latvian 44 Mathematical Olympiad, Final Grade, 3rd round, and the 1st, 2nd and 3rd Selection Rounds; five Klamkin Quickies; the Sixth Irish Mathematical Olympiad; and the 1992 Dutch Mathematical Olympiad.

20 Book Review *Andy Liu*

This month's book is:

Shaking Hands in Corner Brook and other Math Problems, edited by Peter Booth, Bruce Shawyer and John Grant McLoughlin, published by the Waterloo Mathematics Foundation, Waterloo, 1995, 153 pages, paperback, ISBN 0-921418-31-0.

Reviewed by **Robert Geretschläger** and **Gottfried Perz**.

23 A Probabilistic Approach to Determinants with Integer Entries

Theodore Chronis

It is well known that the probability for an integer number to be odd is equal to the probability for the number to be even. What about determinants? What is the probability for a rectangular matrix with integer entries to have odd determinant? More generally, if m is a natural number, what is the probability for which $\det A \equiv m_i \pmod m$, where m_i is chosen from the set $\{0, 1, 2, \dots, m - 1\}$?

The problem solved in the paper is:

Let A be an $n \times n$ matrix whose elements are integers. What is the probability the determinant of A is an odd number?

- 25 The Skoliad Corner: No. 21 *R.E. Woodrow*
Featuring the 1994 NAT WEST UK Junior Mathematical Challenge.
- 30 Mathematical Mayhem
- 30 Editorial
 - A welcome from Naoki Sato, Mayhem Editor.
 - 30 Shreds and Slices
 - 31 Positive Matrices and Positive Eigenvalues
 - 32 Newton's Relations
 - 34 Mathematically Correct Sayings
 - 35 Contest Dates
 - 36 A Journey to the Pole — Part I
 - Miguel Carrión Álvarez*
 - The first of two articles explaining how to handle curves in polar coordinates.
 - 41 IMO Report *Richard Hoshino*
 - A student's point of view of the Canadian IMO Team's preparation and visit to India.
 - 42 Mayhem Problems
 - 43 High School Problems
 - 44 Advanced Problems
 - 44 Challenge Board
- 45 Problems: 2201–2212, 2137
This month's “free sample” is
- 2211.** *Proposed by Bill Sands, University of Calgary, Calgary, Alberta.*
Several people go to a pizza restaurant. Each person who is “hungry” wants to eat either 6 or 7 slices of pizza. Everyone else wants to eat only 2 or 3 slices of pizza each. Each pizza in the restaurant has 12 slices.
It turns out that four pizzas are not sufficient to satisfy everyone, but that with five pizzas, there would be some pizza left over.
How many people went to the restaurant, and how many of these were “hungry”?
- 48 Solutions to problems 2101–2112