33: No 6 October / Octobre 2007

Published by:

Canadian Mathematical Society
Société mathématique du Canada
577 King Edward
Ottawa, ON K1N 6N5
Fax/Télec: 613 565 1539

SYNOPSIS

321 Skoliad: No. 104 *Robert Bilinski*

- 23ième Concours W.J. Blundon de Mathématiques
- 23rd W.J. Blundon Mathematics Contest
- solutions to the Concours Montmorency 2004–2005

327 Mathematical Mayhem *Jeff Hooper*

327 Mayhem Problems: M307–M312

330 Mayhem Solutions: M257–M262

334 Problem of the Month *Ian VanderBurgh*

336 The Olympiad Corner: No. 264 *R.E. Woodrow*

Featuring the 2003 Kürsckák Competition; the Hellenic Mathematical Competitions 2004, Seniors Level; teh Vietnamese Mathematical Olympiad 2004; teh 2004 Taiwanese Mathematical Olympiad, Selected Camp Problems; and readers' solutions to some of the problems from

- the 38th Mongolian Mathematical Olympiad;
- the 19th Balkan Mathematical Olympiad;
- the Bulgarian Mathematical Olympiad, Final Round, 2003;
- the Iranian Mathematical Olympiad 2002 (First, Second, and Third Rounds;

351 Book Reviews *John Grant McLoughlin*

351 *First Steps for Math Olympians: Using the American Mathematics Competitions*
by J. Douglas Faires
Reviewed by Robert D. Podiack

353 *The Edge of the Universe: Celebrating 10 Years of Math Horizons*
by Deanna Haunsperger and Stephen Kennedy
Reviewed by John Grant McLoughlin

354 The Converse of Schiffler's Theorem

by *Joe Goggins*

If P is a point in the plane of triangle ABC, but not on any of its side lines, then the Euler lines of the four triangles ABC, PBC, APC, and ABP may or may not concur. Kurt Schiffler discovered that *when P is located at the incentre of $\triangle ABC$, then the Euler lines concur at the point now bearing his name.*

The converse, however, is false, since there is a second valid solution.

The author then develops a construction of this second point, and lists a set of four related conjectures.

Enjoy!

361 On the Pell Equation $x^2 - (k^2 - 2)y^2 = 2^t$

by *Ahmet Tekcan*

The author starts with an overview of the general Pell Equation and continued fractions, and then launches into solving the special equation in the title.

366 Problems: 3253–3275

This month's "free sample" is:

3266. *Proposé par Michel Bataille, Rouen, France.*

Trouver tous les entiers positifs n ayant la propriété suivante : chaque fois que a et b sont des entiers tels que $ab + 1$ est un multiple de n, il en est de même pour $a + b$.

. . . .

3266. *Proposed by Michel Bataille, Rouen, France.*

Find all positive integers n with the following property: whenever a and b are integers such that $ab + 1$ is a multiple of n, then $a + b$ is also a multiple of n.

371 Solutions: 3164–3175, 3177