

## 37: No 6      October / Octobre 2011

Published by:

Canadian Mathematical Society  
Société mathématique du Canada  
209 - 1725 St. Laurent Blvd.  
Ottawa, ON K1G 3V4, Canada  
Fax/Télé. : 613 733 8994

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### SYNOPSIS

337 Skoliad No. 135    *Lily Yen and Mogens Hansen*

- L'Association mathématique de Calgary 35<sup>e</sup> Compétition Junior de Mathématique, Ronde finale, partie B, 2011
- Calgary Mathematical Association 35<sup>th</sup> Junior High School Mathematics Contest Final Round, Part B, 2011
- Solutions to questions of the City Competition of the Croatian Mathematical Society, 2010, secondary level, grade 1

345 Mathematical Mayhem    *Shawn Godin*

345 Mayhem Problems:    M501–M506

347 Mayhem Solutions:    M463–M469

352 The Olympiad Corner: No. 296    *R.E. Woodrow and Nicolae Strungaru*

352 Olympiad Corner Problems:    OC31–OC40

In this *Corner* are solutions from readers to some problems from

- 48<sup>th</sup> IMO Bulgarian Team, First Selection Test
- 48<sup>th</sup> IMO Bulgarian Team, Second Selection Test
- 2007 Mediterranean Mathematical Competition
- 24<sup>th</sup> Balkan Mathematical Olympiad 2007
- Indian Team Selection Test 2007
- Olimpiada Nacional Escolar de de Matematica 2009, Level 1
- Olimpiada Nacional Escolar de de Matematica 2009, Level 3

384 Book Reviews    *Amar Sodhi*

384 *Charming Proofs : A Journey Into Elegant Mathematics*  
by Claudi Alsina and Roger B. Nelsen  
Reviewed by R. P. Gallant

385 Recurring Crux Configurations 2 :    *J. Chris Fisher*

This new, occasionally appearing column, highlights situations that reappear in *Crux* problems. In this issue problem editor J. Chris Fisher examines triangles for which  $2b = c + a$ . Enjoy!

This month's "free sample" is:

**3665.** *Proposé par Nguyen Thanh Binh, Hanoi, Vietnam.*

Dans une quadrilatère cyclique  $ABCD$ , soit  $M$  le point d'intersection des diagonales  $AC$  et  $BD$ , et soit  $Q$  le point d'intersection de la droite passant par  $M$  et le point milieu de  $BC$ . Montrer que  $MQ$  est perpendiculaire à  $AD$  si et seulement si les côtés  $AD$  et  $BC$  sont parallèles (en quel cas  $ABCD$  est un trapèzoïde isocèle) ou les diagonales sont perpendiculaires (et alors on a la configuration de Brahmagupta).

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**3665.** *Proposed by Nguyen Thanh Binh, Hanoi, Vietnam.*

Let the diagonals  $AC$  and  $BD$  of the cyclic quadrilateral  $ABCD$  intersect at  $M$ , and let the line joining  $M$  to the midpoint of  $BC$  meet  $AD$  at  $Q$ . Prove that  $MQ$  is perpendicular to  $AD$  if and only if the sides  $AD$  and  $BC$  are parallel (in which case  $ABCD$  is an isosceles trapezoid), or the diagonals are perpendicular (and we have Brahmagupta's configuration).