SYNOPSIS

Pages      Item

193       Ceva meets Pythagoras! K. R. S. Sastry

Sastry had assumed that nobody could beat Ptolemy in providing a shortest proof of the Pythagorean theorem. But he does better!

With the assumed knowledge of ratios of line segments, the area measure of a polygonal region, the definitions of trigonometrical ratios and the theorems of Ceva and Menelaus, he describes a construction about erecting parallelograms on the sides of a triangle. That enables him to discover a new necessary and sufficient condition for the concurrency of three cevians of a triangle. Then, by treating the altitudes of a right-angled triangle as the degenerate case of three concurrent cevians, he deduces the Pythagorean theorem.

Intrigued? Read about it in *CRUX*.

198       The Skoliad Corner: No. 15 R. E. Woodrow

Featuring the 14th annual American Invitational Mathematics Examination and the solutions of the European “Kangaroo” Mathematical Challenge,

201       Congratulations to Andy Liu on being this year’s awardee of the prestigious *David Hilbert International Award* at the World Federation of National Mathematics Competitions meeting at ICME-8, in Seville.

202       The Olympiad Corner: No. 175 R. E. Woodrow

213 The Academy Corner: No. 4  Bruce Shawyer

Featuring solutions to the first three questions in the Memorial University Undergraduate Mathematics Competition 1995.

215 Book Review  Andy Liu


216 Mathematical Literacy

Answers to the questions posed in the February 1996 issue.

217 Problems: 2151–2163, 2139

This month’s “free sample” is:

2162. Proposed by D. J. Smeenk, Zaltbommel, the Netherlands.

In \( \triangle ABC \), the Cevian lines \( AD \), \( BE \), and \( CF \) concur at \( P \). \( \triangle XYZ \) is the area of \( \triangle ABC \). Show that

\[
\frac{[DEF]}{2[ABC]} = \frac{PD}{PA} \cdot \frac{PE}{PB} \cdot \frac{PF}{PC}
\]

220 Solutions: 1823, 2044, 2048, 2052, 2056, 2058–2066.

240 Congratulations to some solvers who represented their countries at the 37th IMO in Mumbai, India, in July 1996.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Award (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carl Bosley</td>
<td>United States</td>
<td>Gold Medal</td>
</tr>
<tr>
<td>Sabin Cautis</td>
<td>Canada</td>
<td>Bronze Medal</td>
</tr>
<tr>
<td>Adrian Chan</td>
<td>Canada</td>
<td>Bronze Medal</td>
</tr>
<tr>
<td>Toby Gee</td>
<td>Great Britain</td>
<td>Silver Medal</td>
</tr>
<tr>
<td>Ashish Kr. Singh</td>
<td>India</td>
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