Junior Balkan Mathematical Olympiad (JBMO)

Aria: Mathematics

Style of Competition:
- "Classical style" competitions (like the IMO) which require the students to present arguments (proofs) in written form
- International regional competition for students of limited age

Target Group: Students at the age not more than 15,5 years from countries of the Balkan region

Age of Participants: Not more than 15,5 years

School level of Participants: Secondary schools

Number of Participants in the Last 3 Years: Teams of six students from each country – about 60–70 participants

History of Competition: JBMO started in 1997 initiated by several mathematicians from Balkan contries – Vladimir Stoyanovich (Serbia), Khristo Malcheski (Macedonia) and Ivan Tonov (Bulgaria)

Financial Basis of the competition: JBMO are supported by the host countries and the other countries take care for their travel expenses

Competition Problems: The theme for JBMO2007:

Problem 1. Let a be positive real number such that $a^3 = 6(a+1)$. Prove that the equation $x^2 + ax + a^2 - 6 = 0$ has no real solution.

Problem 2. Let $ABCD$ be a convex quadrilateral with $\angle DAC = \angle BDC = 36°$, $\angle CBD = 18°$ and $\angle BAC = 72°$. The diagonals AC and BD intersect at point P. Determine the measure of $\angle APD$.

Problem 3. Given are 50 points in the plane, no three of them belonging to a same line. Each of these points is colored using one of four given colors. Prove that there is a color and at least 130 scalene triangles with vertices of that color.

Problem 4. Prove that if p is a prime number, then $7p + 3p - 4$ is not a perfect square.

Results Scored: At the last JBMO held in Shumen (Bulgaria) eight gold medals were given to the following students Chidea Filip, Bumbacea Radu from Romania, Mustafa Comoglu, Muhammed Said Grundagan from Turkey, Predrag Gruevski from FYROM and Daniel Djevelekov, Zhivko Zhechev, Kubrat Danailov from Bulgaria. Also 17 silver and 32 bronze medals were distributed

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Photo Gallery:

Additional Information: