



Sam Elder of Fort Collins solves “The Famous Five” and Wins His Second Gold Medal in the 24th Colorado Mathematical Olympiad

XXIV Annual Colorado Mathematical Olympiad (CMO-2006) took place on April 20, 2007. It brought together some **420** middle and high school students from all over Colorado: Aurora, Bailey, Boulder, Calhan, Cheraw, Colorado Springs, Denver, Englewood, Falcon, Fort Collins, Florence, Greeley, Highlands Ranch, Littleton, Loveland, Manitou Springs, Monument, Parker, Pagosa Springs, Rangely, and United States Air Force Academy. We also had two guest participants from the Alabama School of Mathematics and Science, Mobile, Alabama, who earned their trip to our Olympiad by winning their local mathematics competition.

The Olympians were offered five problems and four hours to solve them and present complete essay-type solutions.

The judges have awarded First prize to Sam Elder, a junior from Poudre High School of Fort Collins. He will receive a gold medal of the Olympiad, a \$1,200 scholarship to be used at any certified American university or four-year college, a \$1,000 UCCS Chancellor's Scholarship for CMO Medalists, CASIO Graphing Calculator, CASIO Watch, CASIO ClassPad 300, Wolfram Research's Mathematica 5.2 software, and Wolfram Research's Crystal Star Necklace.

For the second time in 24-year old history of the event, the winner has solved completely “The Famous Five” problems of the Olympiad. Both times it was achieved by Sam Elder, in 2006 and 2007. He was second behind Mark Heim in 2005.

Second prize will be awarded to Hannah Alpert, a senior from Fairview High School of Boulder. She will receive a silver medal of the Olympiad, a \$900 scholarship to be used at any certified American university or four-year college, a \$1,000 UCCS Chancellor's Scholarship for CMO Medalists, CASIO Graphing Calculator, CASIO Watch, CASIO ClassPad 300, Wolfram Research's Mathematica 5.2 software, and Wolfram Research's Crystal Star Necklace. Hannah was also second last year, and third the year before.

In view of dramatic distance in success between the top two Olympians and all the rest, the judges decided not to award a third prize this year.

Fourth Prize will be presented to the following 6 Olympians: Alex Petterson, Sophomore, Ft. Collins High School; Charles Xu, 8th grade, Summit Middle School; Ryan Beethe, Freshman, Poudre High School; Victor Li, Sophomore, Fairview High School; Adam Muffler, Senior, Sand Creek High School; and Amber Verser, Sophomore, Thompson Valley High School.

They will each receive CASIO Watch, CASIO ClassPad 300, Wolfram Research's Mathematica 5.2 software, and Wolfram Research's Crystal Star Necklace.

First Honorable Mentions will be awarded to the following 13 contestants: Matt Nehls, Sophomore, and Chris Pak, Junior, Air Academy High School; Michael Morton, Sophomore, Rangely High School; Shuli Song, Freshman, The Classical Academy; James Powell, Senior, Calhan High School; David Stone, Senior, Thornton High School; Daniel Pascua, Junior, Liberty High School; John Thilenius, Freshman, Cheyenne Mountain Jr. High; Sean LeHouillier and Sam Meyer, both Juniors, Cheyenne Mountain High School; Lucas Buccafusca, Sophomore, Poudre High School; and Chris Guthrie, 8th grade, Summit Middle School.

These contestants will receive Casio Watch, the book “How Does One Cut a Triangle?” by Alexander Soifer, CASIO ClassPad 300, and Crystal Star Necklace from Wolfram Research.

Mike Zhang, Junior from Alabama School of Math & Science, will also receive First Honorable Mention.

Second Honorable Mentions will be awarded to the following 49 contestants: Geoffrey Iyer, Junior, Ft. Collins High School; Erik Pozzi, Senior, Air Academy High School; Scott Gneiting, Sophomore, Ponderosa High School; Allan Gardner, 8th grade, Holy Trinity Catholic School; Mutian Yao, Sophomore, Fairview High School; Chris Culver, Senior, Ponderosa High School; Matt Wenger, Senior, Doherty High School; Francesco Georg, Junior, Ft. Collins High School; Kelly Mason, Senior, Rock Canyon High School; Zachary Carter, Sophomore, Florence High School; Christian Pitera, Freshman, Mesa Ridge High School; Margaret Koehler, Freshman, Lewis-Palmer High School; Laura Hopkins, Junior, St. Mary's High School; Sarah McConnell, Sophomore, Joey Kelly and John Harris, both Seniors, Ponderosa High School; Paul Trozan, Senior, and Jeremy Halperin, Sophomore, Ft. Collins High School; Peter Morton, Senior, Rangely High School; Damien Gapinski, Senior, Mesa Ridge High School; Matt Thilenius, Sophomore, Cheyenne Mountain High School; Joseph Zhang and Andy Brunner, both Sophomores, Pine Creek High School; Ian Bowen, Sophomore, Poudre High School; Annisija Wallin, Sophomore, Falcon High School; Alexander Black, 7th grade, Summit Middle School; Nicholas Moore, Senior, Pine Creek High School; Natasha Wallin, Senior, and Jade Slayter, Freshman, Falcon High School; Thomas Tingey, Junior, Florence High School; Sam Kennedy, 7th grade, Erie Middle School; David Hyland, Senior, St. Mary's High School; Jon Zepf, Sophomore, Air Academy High School; Janne Van Dam, Senior, Ellicott High School; Cole Barlow, 8th grade, Rangely High School; Postyn Smith, 8th grade, Cheyenne Mountain Jr. High; Craig O'Dell, Senior, Pine Creek High School; Allison Pineterpe, Sophomore, Falcon High School; Ryan Carson, 7th grade, Altona Middle School; Daniel Nelson, Senior, Ellicott High School; Mitchell McCarty, 6th grade, Timberview Middle School; Stephanie Lengyel, Senior, Falcon High School; Elise Jenkins, Senior, and Scott Ritz, Junior, Pine Creek High School; Rebecca Fathman, Sophomore, Rampart High School; Nik Evitt, 8th grade, Cheyenne Mountain Jr. High; Calvin Rutter, Senior, Florence High School; and Brandon Wright, Junior, Falcon High School.

Kevin Beale, Junior from Alabama School of Math & Science, will also receive Second Honorable Mention.

The Second Honorable Mention winners will receive a CASIO or Texas Instruments scientific calculator, CASIO ClassPad 300, and City of Colorado Springs memorabilia.

Art Award will be presented to Emily Giles, Senior from Falcon High School.

Those who wish to understand the spirit of the Olympiad are invited to solve at least one of the Olympiad's five problems. Here, for example, is a problem *Looking for the Positive*.

A number is placed in each angle of a regular 2007-gon so that the sum of any 10 consecutive numbers is positive. Prove that one can choose an angle with the number a in it, such that when we label all 2007 numbers clockwise $a = a_1, a_2, \dots, a_{2007}$, each sum $a_1, a_1 + a_2, \dots, a_1 + a_2 + \dots + a_{2007}$ will be positive.

THIS YEAR'S PRIZE FUND OF THE OLYMPIAD has been generously donated by CASIO, Inc.; Wolfram Research, Inc.; Texas Instruments, Inc.; Air Academy School District 20; Colorado Springs School District 11; Harrison School District 2; Cotopaxi Schools; Irving Middle School; Fremont School Dist. RE-2; Rangely High School; Ft. Collins High School; Erie Middle School; CU-Colorado Springs Chancellor's Office; CU-Colorado Springs Vice-Chancellors for Academic Affairs, for Administration and Finance, and for Student Success; CU-Colorado Springs Bookstore; City of Colorado Springs; and Alexander Soifer.

THE AWARD PRESENTATION PROGRAM will feature a lecture *One Amazing Problem and its Connections to ... Everything: A Conversation in Three Parts*, and *Review of Solutions of the 24th Colorado Mathematical Olympiad Problems* by Alexander Soifer.

The following guests of honor, hosts and sponsors will address the winners and present the awards: Pamela Shockley, Chancellor, and Thomas Christensen, Dean of the College of Letters, Arts and Sciences – both from CU-Colorado Springs; Maggie Lopez, Assistant Superintendent, Colorado Springs School District 20; Mary Thurman, Deputy Superintendent, School District 11; and Alexander Soifer, Chair, Colorado Mathematical Olympiad.

In the 24 years of Colorado Mathematical Olympiad, some 16,000 students have participated during 1984-2007. They have written over 83,000 essays, and were awarded some \$230,000 in prizes. The Olympiad is a unique joint effort of school districts, schools, institutions of higher education, business community and local and State governments.

MARK YOUR CALENDARS:

The Twenty-Fifth Annual Colorado Mathematical Olympiad will take place on April 18, 2008 with Award Presentation following on April 25, 2008.

For details please consult <http://www.uccs.edu/~asoifer/olympiad.html>.

Alexander Soifer