



36th Soifer Mathematical Olympiad

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Cherry Creek Junior Austen Mazenko repeats as First Prize Winner in the Soifer Mathematical Olympiad

On a Colorado-perfect sunny day, April 26, 2019, 157 Olympians came from all over Colorado: Aurora, Boulder, Calhan, Castle Rock, Centennial, Cherry Hills, Colorado Springs, Denver, Englewood, Evans, Frederick, Gilcrest, Golden, Greeley, Greenwood Village, Highlands Ranch, Johnstown, Kersey, La Salle, Lakewood, Louisville, Manitou Springs, Parker, Platteville, Severance, Superior, and Windsor.

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

First prize was awarded by the panel of judges to Austen Mazenko, junior, Cherry Creek High School, Greenwood Village. This was Austen's second victory; he was third in 2016 and 2017.

On Friday May 3, 2019, each of them is expected to appear and receive an Olympiad Gold Medal, a \$1000 scholarship to attend any accredited American university of his choice, a \$2000 UCCS Chancellor's Scholarship (to be awarded if attending UCCS as a new freshman), Springer Publisher book The Mathematical Coloring Book: Mathematics of Coloring and the Colorful Life of Its Creators by Alexander Soifer, Casio graphing calculator, and the Wolfram Research software Mathematica download.

Second prize was awarded to Kyle Wang, sophomore, Fairview High School, Boulder; Quinn Perian, freshman, Home Schooled, Boulder; and Rahul Thomas, sophomore, Cherry Creek High School, Greenwood Village.

Each of them will receive an Olympiad silver medal, a \$250 scholarship to attend any accredited American university of his choice, a \$2000 UCCS Chancellor's Scholarship (to be awarded if attending UCCS), Springer Publisher book The Mathematical Coloring Book: Mathematics of Coloring and the Colorful Life of Its Creators or The Scholar and the State: In Search of Van der Waerden by Alexander Soifer, Casio graphing calculator, and the Wolfram Research software Mathematica download.

Third prize was awarded to Ellie Greyson, freshman, Cherry Creek High School, Greenwood Village.

He will receive an Olympiad bronze medal, a \$2000 UCCS Chancellor's Scholarship (to be awarded if attending UCCS as a new freshman); a fine Springer book, Alexander Soifer's book Geometric Etudes in Combinatorial Mathematics, Casio graphing calculator, and the Wolfram Research software Mathematica download.

Fourth prize was awarded to Sarah Gao, senior, Cherry Creek High School, Greenwood Village; Grace Zhang, sophomore, Grandview High School, Greenwood Village; and Greg Thompson, freshman, Windsor Charter Academy, Windsor.

Each of them will receive a fine Springer book, and Alexander Soifer's books [Colorado Mathematical Olympiad: The First 10 years and Further Explorations](#), and [Geometric Etudes in Combinatorial Mathematics](#), and the Wolfram Research software [Mathematica](#) download.

First Honorable Mentions were awarded to the following 12 Olympians: from Cherry Creek High School, Brandon Dong, sophomore; Abbas Shaikh, freshman; and Emily Zhang, freshman. From Campus Middle School, Srinivas Arun, 7th grade. From Rock Canyon High School, Anthony Wang, freshman. From Kent, Denver, Jack Parkhouse. From Pine Creek High School, Nathan Jensen, freshman. From Aurora Quest K-8, Matthew Stuckenbruck, 8th grade. From Mountain Ridge Middle School, Ari Wang, 8th grade. From Colorado Academy, Jack Younger, freshman. From Pine Creek High School, Kyle Ma, junior. From Cheyenne Mountain High School, Luke Brobin, sophomore.

Each of them will receive 2 books by Alexander Soifer: [Mathematics as Problem Solving](#) and [How Does One Cut a Triangle?](#) and the Wolfram Research software [Mathematica](#) download.

Second Honorable Mentions were awarded to the following 23 Olympians: From Cherry Creek High School, Huarui Lai, sophomore. From West Middle School, Abigail Douglas, 7th grade; Mirabai Herz, 8th grade; Victor Yan, 8th grade; and Dasha Osovskaya, 7th grade. From Rocky Heights Middle School, Max Xu, 8th grade. From Windsor Charter Academy, Hiram Despain, freshman; Aiden Johnson, freshman; Hayden Barrett, 8th grade; Caeden McNairy, freshman; David Stewart, sophomore; Kendall Albertsen, 6th grade; and James Berg, junior. From Golden View Classical Academy, Ethan Cranston, senior. From Mountain Ridge Middle School, Jacob Mitchell, 7th grade; Achyut Nambiar, 8th grade; Rohan Gohil, 8th grade; and Aashay Deshpande, 7th grade. From Challenge School, Austin Zhang, 6th grade. From Hill Campus of Arts and Sciences, Jr Brian McHughs, 6th grade. From Challenger Middle School, Aahana Paul, 6th grade; and Ethan Johnson, 7th grade. From Pine Creek High School, Hojin Han, freshman.

Each of them will receive a book [Mathematics as Problem Solving](#) by Alexander Soifer, and the Wolfram Research software [Mathematica](#) download.

Those who wish to understand the spirit of the Olympiad are invited to solve some of the 2016 Olympiad's five problems. Here is our problem 3 for your enjoyment:

Homage to Anthony Bourdain: Parts Unknown

Traveling Chef Anthony Bourdain is in a unit square A of a 2019×2019 square grid G . He is allowed four types of moves: he may move to the next square on the right, or the next square straight up, or jump over one square to the left, or jump down over one square. Is there such a starting square A and a series of moves that allow Anthony to visit every unit square of G exactly once and end up in a square immediately to the right of A ?

On Friday May 3, 2019, starting at 2:00 p.m. in Berger Hall of UCCS, we will conduct the Award Presentation Ceremonies, with the participation of Venkat Reddy, Chancellor, UCCS; Heba Abdelaal, Regional Director, U.S. Senator Cory Gardner; Tom Christensen, Provost and Executive Vice Chancellor, UCCS; Kevin C. Mitchell, Executive Director, Empowerment Solidarity Network; Greg Hoffman, Human Resources Director, Intermap Technologies, Inc.; David Sawtelle, K-12 Mathematics Facilitator Education Specialist, Colorado Springs District 11;

Ruthi Manning-Freeman, Assistant Director for TAG, Foreign Exchange, & Enrichment, Academy District 20; and Alexander Soifer, Olympiad Chairman, Professor, UCCS.

Alexander Soifer will present *Review Solutions of the Olympiad Problems* (2 p.m.), and present his lectures *Four Etudes in Mathematical Coloring* (3 p.m.), and *Charge to the Olympians: A Tale of Big Man and Little Bird*.

THIS YEAR'S PRIZE FUND OF THE OLYMPIAD and means for its delivery have been generously donated by Colorado Springs School District 11; Air Academy School District 20; Springer Publisher; Mu Alpha Theta, Mathematics Honor Society; Greg and Mary Hoffman; Robert and June Ewell; Chancellor, UCCS; Provost and Executive Vice Chancellor, UCCS; UCCS Food and Dining Services; UCCS Bookstore; UCCS Parking and Transportation; U.S. Senator Cory Gardner; Colorado Governor John Hickenlooper; Colorado Springs Mayor John Suthers; and Alexander Soifer.

In the 36 years of the Colorado Mathematical Olympiad, some 20,000 students have participated during 1984-2019. They have written ca. 97,000 essays and were awarded over \$433,000 in prizes. The Olympiad is a unique joint effort of school districts, schools, industry, University of Colorado, and City, State, and Federal governments.

MARK YOUR CALENDARS:

The Thirty-Seventh Colorado Mathematical Olympiad will take place on Friday, April 24, 2020 with the Award Presentation following on Friday, May 1, 2020.

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

Alexander Soifer, Prof., Ph.D.

Chair, The Colorado Mathematical Olympiad