

# ΓΟΟΔΣΕΛΛ ΓΑΖΕΤΤΕ

Carleton College

Northfield, MN 55057

The newsletter for the Carleton mathematics and statistics community

March 8, 2019

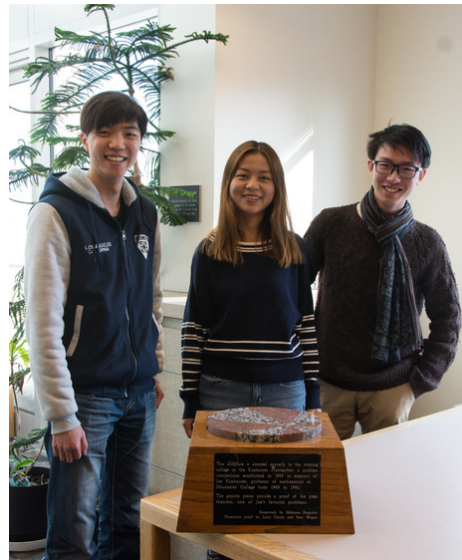
Vol. 37, No. 12



---

## Carleton teams shine at Konhauser Problemfest

On Saturday Feb. 23, six teams of Carls - the most in recent memory - participated in the 27th annual Konhauser Problemfest at St. Olaf. The team of Ian Seong, Haoyi Wang, and Terry Wang (pictured below, from left to right) took home first place out of 19 teams, meaning the famed pizza trophy has returned to Carleton after a one-year absence. Check it out in the area near Sue's office the next time you're in the department. Second place went to the team of Erik Carlson, Hiromichi Ueda, and Arthur Zhang, who were just two points behind the first place team. The team of Jessie Baskauf, Aaron Li, and Brody Lynch placed fourth, the team of Gabriel Brookman, Will Schwarzer, and Taylor Yeracaris took home fifth place, the team of Patty Commins, Marcella Manivel, and Milena Silva snagged the sixth-place spot, and the team of Duc Nguyen, Noah Pinkney, and Juanito Zhang Yang finished 11th. These are all outstanding performances; congratulations to everyone who participated!



## **Estimathon**

**When:** Tuesday, March 12, 4pm

**Where:** CMC 206

A very exciting event is happening in the Math and Stats Department! The event is "Estimate This!", where you work in a team to estimate strange and interesting numbers. With nothing but your own raw estimation talent, you can tackle questions like "How many birdies were there in the 2017 US Open?" or "What is the maximum occupancy of Hong Kong Disneyland?" or "How much potassium is in an average banana (in grams)?" Everyone is welcome at this event! Just show up, join a team, and start guessing. If you are feeling competitive, you can organize a team ahead of time.

---

## **Tutoring Hotline**

Interested in tutoring and helping out the community? Sign up for the tutoring hotline through the CCCE! This program is very flexible with your schedule and you have a lot of freedom in how you would like to help students in the Northfield Schools. They are in need of volunteers who would be interested in tutoring students in mainly math, but potentially other subjects as well. If you are interested or would like to learn more about it, please email [kwakn@carleton.edu](mailto:kwakn@carleton.edu).

---

## **Job & Internship Opportunities**

### **Southern Teachers Agency**

To everything there is a season, and now is the season for good teachers to find great jobs at intriguing independent schools in the South! Southern Teachers can help graduates make that happen. They currently have 183 math teacher openings. If you value close relationships, innovation, collaboration, inspiration, and a focus on student learning rather than standardized testing, you should consider teaching at an independent school. Their schools seek teachers with academic excellence and subject-area expertise enthusiastic about working with children and teenagers--what's important is a gift for connecting with and caring for kids. Selection is based on academic performance and expertise working with children in wide-ranging capacities and certifications is typically not required (except in elementary grades and specialty areas). Southern Teachers has focused on matching great candidates with schools in the South for over a century, taking the time to interview candidates, connect with references, and know the person. The result: placements that help teachers, schools, and students thrive. To apply, go to [SouthernTeachers.com](http://SouthernTeachers.com), submit the application, along with your resume and a cover letter.

### **CrowdStrike, Software Engineer**

CrowdStrike is looking for a recent college graduate Software Engineer to join their growing Engine and Content Development (ECD) team, with a focus on endpoint/sensor development. This position will be based in Minneapolis. The Engine and Content Development team implements strategies and processes that detect suspicious or malicious behavior. Sometimes these detection strategies are performed directly on the endpoint, and sometimes they're evaluated in the cloud. Their goal is to stop the bad guys

automatically where possible, and to provide visibility and guidance to security analysts so they can effectively identify adversaries. They are looking for smart people who want to be challenged and take ownership of what they build, and are interested in researching and understanding attacker behavior and building capabilities to detect and stop attacks. For more information and to apply, visit: The Tunnel.

---

---

## Problems of the Fortnight

To be acknowledged in the next *Gazette*, solutions to these problems should reach me by noon on Tuesday, April 2 (the day after classes start up again).

1. Consider the lattice points (grid points, points with integer coordinates) in the first quadrant, that is, the elements of the set  $S = \{(m, n) | m, n \text{ positive integers}\}$ . Suppose you want to assign to each such lattice point  $P$  a positive integer  $f(P)$  in such a way that

- a) Different lattice points have different integers assigned to them;
- b) Every positive integer is assigned to some lattice point; and
- c) If two distinct lattice points are in the same “row” or “column” (that is, if either their  $x$ - or their  $y$ -coordinates are equal), then the integers assigned to them have no common factors.

(In other words, the function  $f$  from the set  $S$  to the set of positive integers is one-to-one and onto, and if  $P, Q$  agree in exactly one coordinate, then  $\gcd(f(P), f(Q)) = 1$ .) Can this be done? Why, or why not?

2. Find all continuous real-valued functions  $f$  with the property that for any real number  $c$ ,

$$\int_0^{2019} f(cx) dx = \cos c.$$

Correct solutions to both problems posed February 22 came in from “Auplume”; both Aaron Li and John Snyder solved the second problem, and Aaron should stop by CMC 217 to choose an item from the B.B.O.P. Good luck finishing up the term, and have a great break!

- Mark Krusemeyer

---

---



*Editors:*            **Saahithi Rao, Owen Biesel**

*Problems of the Fortnight:* **Mark Krusemeyer**

*Web & Subscriptions:*    **Sue Jandro**

