Problem Corner

Congratulations to **Stephanie Horst**, **Elias Kerh**, and **Brian Nussbaum** for solving the problem in the Summer 2016 Integram. There were 230,230 words meeting the given requirements.

New Problem:

A basketball player will shoot 3-pointers until either winning by making n=3 in a row or losing by missing n=3 in a row. Assuming the player's probability of making each shot is p=0.4, what is the probability the player wins?

Bonus: Solve for general n and p.

Send your solution to Owen Byer at byer@emu.edu

Do you know a prospective student who is interested in studying math at EMU?

Contact Owen Byer at byer@emu.edu for information about applying for the Brenneman-Longacher Endowed Math Scholarship.

Recipients receive $1,250 per year for four academic years, as long as they continue in the math major.

Eastern Mennonite University

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www.emu.edu/math Winter 2017

Programming Contest Debut

On a chilly Saturday morning in early November, three of EMU's top computer science students piled in a car and headed for the largest computer science programming contest in the world: the ACM's International Collegiate Programming Contest. EMU's assigned test site was at Radford University, the central site for the 171 teams in the Mid-Atlantic region. The team, comprised of **Aron Harder**, **Daniel Harder**, and **Andrew Troyer**, was a bit nervous as this was EMU's debut appearance in the contest and no one knew quite what to expect. After a morning with a practice problem and an ironic 90-minute technical delay in the early afternoon, the team received their packet of problems. Each team had 4 hours to solve as many of the 8 problems as they could. Teams from Virginia Tech and the University of Pennsylvania advanced

to nationals by solving four and three problems, respectively. The EMU team had a strong showing by quickly solving two problems, with some substantial progress towards a few others -- enough to earn them the distinction as the top team in our area (which included Bridgewater College and James Madison University).

Congratulations

Math Scholarship Recipient

Andrew Reimer-Berg was the recipient of the Brenneman-Longacher Mathematics Scholarship for the 2016 incoming class. Andrew, from Salem, Oregon, is majoring in mathematics and contemplates minors in honors, physics, music and/or Spanish. While still uncertain of his long-term direction, he has always enjoyed math. He says, "My Dad is a math teacher, so I guess that has something to do with it!" Andrew appreciates the mathematical sciences department at EMU, where "great faculty" are able to provide individual and personal attention to students.

Job Opening

Tenure-Track Faculty Position

We're looking for new faculty! The Mathematical Sciences department is seeking to hire a tenure-track professor in Computer Engineering or Computer Science beginning in August 2017. Recent growth in the number of students enrolling as majors in our department, as well as development of our new engineering program make this an exciting time to be at EMU! The full job listing is posted at http://www.emu.edu/hr/openings/.

Adventures with NASA

Space Act Agreement

This summer, EMU's new engineering program received an exciting jump-start, even before its first students arrived. EMU has signed a Space Act Agreement with the National Aeronautics and Space Administration (NASA). This three-year agreement is an arrangement authorized by a federal law that allows NASA to collaborate with universities and private companies on mutually beneficial research. Under the terms of the agreement, NASA scientists will periodically visit campus for lectures and seminars; work with engineering, biology and chemistry faculty on course and curriculum review; and collaborate with EMU faculty and students on research programs.

It was **Russell De Young**, a NASA researcher who is also a Mennonite, who first approached EMU with the idea of this partnership. Engineering professor **Esther Tian** has worked hard to facilitate the arrangement, which she describes as a "really big deal." Students are already benefitting, and we are excited about the possibilities that will further emerge!

New Equipment

The benefits of the Space Act Agreement extend beyond the engineering program. In addition to a laser system for the engineering program, NASA is providing EMU with a spectrometer for the chemistry laboratory and water quality sampling equipment for the environmental science program. In early December, Russell De Young visited EMU to install the spectrometer and the laser system, which includes an Nd:YLF pulsed laser.

Field Trip to Langley Research Center

On Thursday, October 27, 18 engineering students and two faculty members were privileged to visit NASA's Langley Research Center in Hampton, Virginia, hosted by NASA researcher Russell De Young. Students returned from the trip excited about ideas for new projects, and eager to apply learnings from what they had observed.

For more about the Space Act Agreement, visit EMU news at http://emu.edu/now/news/2016/10/nasa-agreement-yields-lab-equipment-research-internship-opportunities-science-engineering-programs/

The local NPR station has also covered this story. For an article that includes responses to the field trip experience, visit http://wmra.org/post/emu-engineering-partnering-nasa