TCU Math Newsletter

"Falling in love" is not at all the most stupid thing that people do – but "gravitation" cannot be held responsible for it.

- Albert Einstein

TCU Math Club Meetings

The TCU Math Club will meet twice in November. The meeting on Tuesday, November 8 will be a Math Jeopardy/Trivia night. It will take place from 5:30 to 6:30 pm in TUC 245. The second meeting, on Thursday, November 17, from 7:00 to 8:00 pm in TUC 245, will feature a talk by TCU undergraduate McGilley Simons. The last meeting of the semester will be a study session in TUC 300 on Thursday, December 1 from 5:30 to 6:30 pm. Membership in the TCU Math Club is open to all TCU students. You can join the TCU Math Club on engage.tcu.edu, and follow @tcumathclub on Instagram to stay up-to-date on meetings. For more information, contact the current president Maithili Bhate at MAITHILI.BHATE@tcu.edu.

TCU Graduate Student Publishes Article in the MAA Monthly

Maiyu Diaz, a second year Ph.D. student in the TCU Mathematics Department, recently had a paper published in the MAA Monthly. The article is entitled "Asymptotics on a Class of Legendre Formulas." This is a wonderful achievement for a graduate student.

The abstract of the article states: Let f be a real-valued function of a single variable such that it is positive over the primes. In this article, we construct a factorial, $n!_f$, associated to f, called the associated Legendre formula, or f-factorial, and show, subject to certain criteria, that $n!_f$ satisfies a weak Stirling approximation. As an application, we will give weak approximations to the Bhargava factorial over the set of primes and to a less well-known Legendre formula.

The article can be found at:

https://www.tandfonline.com/doi/full/10.1080/00029890.2022.2128041?src

Budapest Semesters in Mathematics Education (BSME) Summer Term Informational Webinar


Summer@BSME is a six-week summer program in Budapest, Hungary which is designed for undergraduates, recent graduates, and in-service teachers interested in the learning and teaching of secondary mathematics.

Interested students are invited to learn more about BSME in a live webinar on November 9, 2022 at 2:00 pm Central Time. In the webinar, you can hear about the program from current BSME students and staff and BSME alumni.

Students who wish to attend this webinar can register at

https://bsmeducation.com/bsme-informational-webinar/
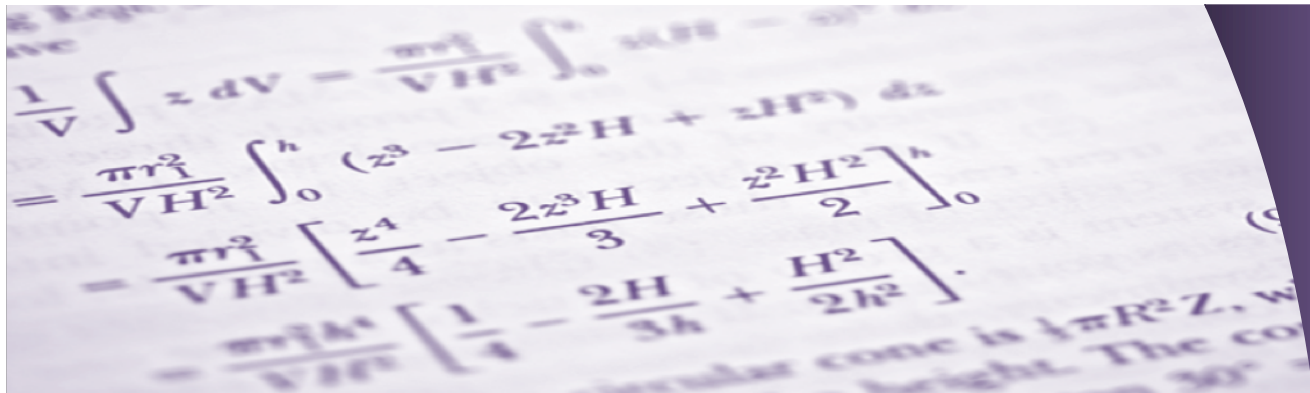
Solution to the October 2022 Problem of the Month

Problem: A person reads the 361 chapters of Tolstoy's *War and Peace* over 200 consecutive days, each day reading at least one chapter and always reading entire chapters within one day. Must there be a period of consecutive days when the person reads exactly 180 chapters over that period?

Solution: If not, the last chapters read on the 200 days includes at most one of 1 and 181, one of 2 and 182, ..., one of 179 and 359, one of 180 and 360 (actually 180 is impossible), and 361. This would account for only $180+1=181$ days, so there must there be some period of consecutive days when the person reads exactly 180 chapters.

November 2022 Problem of the Month

What is the largest possible area of a quadrilateral with sides of lengths 1, 1, 1, 2?