

UNDERGRADUATE MATH SEMINAR

The next, and last, math seminar of the winter term will be

DATE: **THURSDAY, October 15, 2026**

Time & **12:30 – Refreshments in Bailey 204**

Location: **12:50 – 1:45 Seminar in Bailey 207**



Professor Keenan Kidwell

In this seminar, **Professor Keenan Kidwell**, an Assistant Professor of Teaching at Worcester Polytechnic Institute, will present the following talk.

Title: A Problematic Introduction to Number Theory

Abstract: How does one meaningfully, accessibly, and (more or less) honestly describe one's mathematical discipline to an interested student, or a colleague in another field? Indirectly, of course! We will describe a conception of number theory based on classical examples of problems whose statements are elementary, but whose solutions exemplify the modern mathematical tendency to approach a question by reformulating it in a more sophisticated context so as to gain access to powerful techniques not available in the original setting. Along the way, we will also comment on the extent to which the scope and expansiveness of our notion of number is informed by what is required to answer interesting questions about, well, numbers.

How to Keep Up with the *Breaking News* Regarding AI and Math

There seems to be a nonstop flow of breaking news about AI proving open conjectures in mathematics. As reported in the Union [math newsletter on September 14, 2026](#), OpenAI announced on Tuesday, September 8, a purported resolution to a \$1 Million Millennium Prize Problem concerning the Navier-Stokes equations describing how fluids flow. Then, this past Tuesday, October 5, OpenAI dumped 722 papers claiming to have solved 377 open problems in mathematics across almost all fields within mathematics. The math was done by AI, and the papers were written by AI! The mathematical community is now grappling with how to handle this brave new world.

Another question is how to keep abreast of the developments. Here are some written sources to follow, as well as a podcast to check out.

- [Quanta magazine](#) is a fantastic online science publication. Their subdivision on mathematics provides excellent, generally accessible, articles on major results in mathematics.
- In response to the dramatic happenings, starting last month, Quanta started publishing "[Transformation](#)", which is "*a weekly editorial dispatch led by writer Konstantin Kakaes that tracks how artificial intelligence is transforming mathematics, covering breaking proofs, controversies, and shifting research paradigms*". [This description was produced by Google's Gemini!]
- [The Joy of Wh\(y\)](#) podcast – also by Quanta magazine(!). In this, as described by Quanta, the "mathematician and author Steven Strogatz and the astrophysicist and author Janna Levin interview leading researchers about the great scientific and mathematical questions of our time." The September 3 episode, preceding some of OpenAI's biggest math releases, entitled "Live from ICM [the International Congress of Mathematicians] 2026: What is Math For in the Age of AI" is a live conversation between the hosts of the podcast and three leading mathematician, Alex Kontorovich, Akshay Venkatesh, and Ravi Vakil.