

# SIXTEENTH ANNUAL PRESKENIS LECTURE

## *FROM ARITHMETIC TO PROOF: CREATING MATHEMATICIANS IN THE ELEMENTARY SCHOOL CLASSROOM*

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**Abstract:** Traditional mathematics learning tends to begin with the presentation of a polished result which is then applied to carefully chosen illustrative examples. But this format hides the true nature of a mathematician's work, which is creative, exploratory, messy, and meandering. Long before mathematicians prove a useful theorem, they play with examples, cultivate their intuition, and make a lot of false starts in their search for something that is plausibly true.

How does the mathematical experience change for elementary students when they function as a community of mathematicians? In this talk, I will share work from a project which brings mathematical argument about the four arithmetic operations into 2<sup>nd</sup> – 5<sup>th</sup> grade classrooms. We will explore what it means for young students (and their teachers) to engage in the earliest stages of creating conjectures, searching for evidence and counterexamples, and ultimately supporting their claims with representation-based proofs.

Dr. Kasman is the winner of the 2017 *NES/MAA Award for Distinguished College or University Teaching* and the 2016 winner of the *Distinguished Teaching Award* at Salem State University. She earned her Ph.D. in geometric group theory at the University of Illinois at Chicago, and her current scholarship is focused on teaching and working with pre-service and in-service elementary and middle school teachers. She has been a summer faculty member at *Bridge to Enter Advanced Mathematics* (BEAM) since 2014 and a co-director of the *Career Mentoring for Women* (CaMeW) workshop.

A dedicated teacher committed to excellence, a serious scholar, a popular son of South Boston, and a gentleman, Ken Preskenis had a passion for mathematics and for sharing that love with others, especially youngsters. He joined the faculty at Framingham State College in 1977 after teaching at Newton College and Boston College. Ken was the author of a number of articles in analysis and mathematics education, a regular attendee and contributor at NES/MAA meetings, a South Boston Athletic Hall of Famer, and a recipient of the *Michael E. Glynn South Boston Community Service Award*. The *Kenneth J. Preskenis Scholarship Fund* has been established in his memory at Framingham State University.

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- and
- Office of Campus Events for making the reservations, arrangements, and set-up for Dr. Kasman's presentation and the reception.

Please join us next year for the *Seventeenth* Annual NES/MAA Preskenis Lecture.