

math news

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The Old Favorite

A 10-digit number where the first digit tells how many 0s are in the number, the second digit tells how many 1s are in the number, etc. until the tenth digit which tells how many 9s are in the number is: 6210001000. See Dr. Wojnar regarding interesting extensions of this puzzle.

Monday Night Activity Schedule

4/24 Puzzles
5/1 Board Games
5/8 Puzzles
5/15 Rockband

Proud to be “XXX”

Alert and avid readers of *Math News* will have noticed that this periodical is now finishing Volume XXX --- three decades of people, problems, and progress. It all started with a project executed by students in a FSU education course. That first lone issue (Volume 0?) had nothing to do with our department directly, but continuation and expansion of the idea came to the department in 1986, when one of those students, Mark Shore, joined the FSU Mathematics faculty. (He is now Dr. Mark Shore, Professor and Department Chair of Mathematics at Allegany College of Maryland.) For a few years, both students and faculty worked on its publication, but has primarily been generated by a faculty committee (currently Dr. Lemmert, Dr. Tootoonchi, Dr. Dumnich, and Mrs. Devlin). The committee would welcome outside contributions. Regular issues have recently been published every academic year in September, November, February, and April.

The Math News banner, which has appeared at the top of each edition since October 1988, was designed by Professors White and Biggs and was inspired by Scott Kim's book *Inversions*. As you may have observed, the logo exhibits 180° rotational symmetry. (How lucky for us, since it was accidentally published upside down in an April Fools edition!)

Over the years, the newsletter has included stories ranging from the birth of a baby to the announcement of the proof of Fermat's Last Theorem, from alumni advice to student research, and from "Farewell, Dunkle" to "Hello, CCIT," as well as over a hundred puzzles (with almost no repetitions, The Old Favorite above notwithstanding).

From humble beginnings to its status now as a bedrock in mathematical and educational cyberspace, one wonders if a Pulitzer Prize might not be in the *Math News* future. If it happens before Volume XL, our egos will no doubt be XL also.

Department to Host Conference

The Department of Mathematics will host the Spring 2017 meeting of the Maryland-District of Columbia-Virginia Section of the Mathematical Association of America on April 28 – 29. The MD-DC-VA Section is the regional affiliate of the national organization, and has 1,900 members. The event will kick off with a workshop on inquiry-based learning by Cassie Williams (James Madison University), Amy Ksir (US Naval Academy), and Mitch Keller (Washington and Lee University) followed by an evening address by Laura Taalman of James Madison University. The conference will include talks from several invited presenters as well, including Paul Humke of St. Olaf and Washington & Lee University and Alissa Crans of Loyola Marymount University. Students are welcome and encouraged to attend. For more information or to register, visit <http://sections.maa.org/mddcva/Spring2017Meeting.php>.

Spring Seminars Summarized

Dr. Hegde: The maximum likelihood estimator answers the question: what value of the parameter gives the highest chance for the data that is being observed? At an elementary level, this fundamental question can be answered using Calculus I techniques. When the sample size is large, the sampling distribution behaves like a bell curve. The variance of this bell curve is related to what is known as Fishers Information. Interestingly, Fishers Information is connected to the ideas of random slopes and random curvatures of a family of probability distributions.

Dr. Rachel Grotheer (Goucher College): You have probably heard of a CAT scan or an MRI, but do you know how they work? You may be surprised to learn that medical imaging devices such as the CAT scanner do not work like a camera taking a picture of your insides. Instead, the machine outputs data that gives us information about one of the properties of the tissue, such as how it scatters light (the "stripes"), which is only part of the whole picture (the "tiger"). Dr. Grotheer discussed how exactly we get an image from this information, and what needs to be done to the data so that we can construct a "good" image.

KME Corner

The final meeting of Kappa Mu Epsilon will be Thursday, April 27 at 6:30 in CCIT 245. Business will include election of next year's officers, planning of the May 17 picnic, and another pizza distribution experiment.