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Math: That Thing You Do

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Math: That Thing You Do

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When you tackle a set of problems, do you like easy first or hard first? Do you lay out a problem solving strategy ahead of time, or dive right in? This issue explores many of the processes that mathematicians use, from teaching to research; we even get a peek into a mathematical poet's algorithm to write poetry.

Kristin Kennedy and Allison Butler have collected data to answer the question: do students do better when math problems run from easy to hard or from hard to easy? The results when broken down by gender and major are surprising. Emily Grosholz presents a historically influenced approach to teaching and learning about complex numbers, while F. Luke Wolcott explores how contemplation of our mathematical process can lead to improved research. Shenglan Yuan looks at how Pólya's method of problem solving can be applied to teaching basic math skills, Peter Rowlett shows how adding technology to the mathematical learning process is not the cure-all it is often presented as, and Caleb Emmons shares his personal recipe for cooking up mathematical poetry.

A second strand that weaves through this issue focuses on numbers, arguably the core constructs of mathematics. We begin by looking at what makes a number interesting. One way to measure this is to count how often the number appears in the Online Encyclopedia of Integer Sequences. Nicholas Gauvrit, Jean-Paul Delahaye, and Hector Zenil explore the unexpected behavior of this measure, a clustering of the data known as *Sloane's Gap.* Jan Nordgreen, on the other hand, simply follows a sign on a gate to a mathematical exploration in number theory and looks for his own interesting numbers. A fellow traveler, W.M. Priestley examines how language and mathematical ideas have interacted since ancient times.

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Lawrence Lesser gives us three poems this issue and Erika Dyquisto one: both share their inspiration behind their poetry. Robin Chapman also contributes three poems; after the first two dynamically motivated ones, she zeroes in on the prime numbers. Finally, Robert Dawson leaves the mathematicians and their processes completely behind and discusses how some of our favorite numbers feel about things.

In this issue we also publish a report about our precursor the Humanistic Mathematics Network Newsletter. Alvin White published six issues of the Newsletter before changing its name from a newsletter to a journal. In their bibliographic contribution, Claire Skrivanos and Qingcheng Zhang summarize each of the articles that appeared in those original six issues, along with a recounting of the publication history of the Humanistic Mathematics Network Journal.

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Now some news on our front: Journal of Humanistic Mathematics has passed the all-important 10,000 downloads milestone by its first anniversary in January 2012. Lest one write this off as a fluke, we should add that the second ten thousand came by much quicker; we reached 20K full text downloads in September 2012. Our top five most popular articles have been downloaded over a thousand times each, and one of the lead articles from our first issue has been downloaded over two thousand times! It is quite natural then to echo a sentiment stated in Skrivanos and Zhang's report that "the time of humanistic mathematics has arrived, and is all around us."