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★**Ode to numbers.**
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The title of this volume of mathematical poetry comes from a poem by Pablo Neruda. The author has coordinated a number of poetry readings that have been part of the annual Bridges conferences on relations between art and mathematics. (Information on these conferences and the included poetry can be found at bridgesmathart.org/ past-conferences.) She has also edited published versions of these readings [see, for example, *Bridges 2013 poetry anthology*, Tesselations, Phoenix, AZ, 2013; MR3331581]. The effect of reading the poems in this volume, written by a single author, seems especially personal and immediate. Many of the poems focus on the author's life, primarily as it relates to mathematics, including some on her research-related travels. Helpful notes on individual poems are placed at the end of the volume.

Most of the poems involve some relation of mathematics to other elements of life in a way that should be accessible and illuminating to readers both with and without considerable mathematical background. A few, for example "The Enigmatic Number e", may most easily be seen as an aid to teaching (see the author's paper "The enigmatic number e: a history in verse and its uses in the mathematics classroom" [Convergence **7** (2010) (Loci, Volume 2), doi:10.4169/loci003482]). I have worked at mathematics and poetry separately and feel that both are a source of beauty and truth. Perhaps it is this kind of feeling that makes mathematicians interested in poetry and poets interested in poems with mathematical content. Of course, there are great differences. I can remember insisting (rightly or wrongly) in a poetry workshop that all mathematical content be treated in a mathematically correct way.

Some poems in this volume describe the experience of doing research in mathematics. "Like a Mathematical Proof" begins with the observation that "A poem courses through me / like a mathematical proof, / arriving whole from nowhere, / from a distant galaxy of thought." Later, a poem is said to be "a creature / of indescribable mystery" whose "passage / fills me / with / inner peace." The poem "The Journey" has as an epigraph a quote from Andrew Wiles: "I can best describe my experience of doing mathematics in terms of a journey ... ". First, "You wait till the unconscious makes the unknown known— / till you embark on the right journey / and start to walk the correct path, / twisting among tall trees and tangled bushes". Then you arrive at a clearing that "seems at first a jewel" and expands as you learn more about it. Now the trees surrounding it "murmur of dark secrets" and once you "know each blade of grass and every bloom / as intimately as you know your lover's skin, / they lure you with the promise of a quest— / to venture forth into dark shadows again."

A poem appearing slightly earlier in the collection, "A New Research Project", points out that such a new journey "like a newborn baby / surprises you with the amount of work it asks / for. At every step ten times or more than / you imagined and a few steps above the ones / you counted on". In "Serendipity", the author points out that the experience of solitude is characteristic of both writing poems and doing mathematics: "I work on mathematics / the way I work on poems— / that's why / I work alone." A poem about teaching the mystery and miracles of mathematics is entitled "If Not Loved, Then Useful".

A number of poems concern the history of mathematics. "$\sqrt{2} = 1.41421\ldots$" deals with Hippasus, who is generally credited with discovering the irrationality of $\sqrt{2}$. He is supposed to have drowned at sea, as he does in the poem. The line counts of the stanzas match the portion of the decimal expansion of $\sqrt{2}$ given in the title. "The First Negative" begins "Down the funnel of history / I search for you—the first man / to cup in his hands /minus one grain of fire", and ends with a view to the future and the development of abstract algebra. "Calculus", which also appears in the Bridges collection cited above, describes controversy in the development of calculus. Other poems on the history of mathematics include "Hardy", "The Death of Euclid", "Pythagoras Plays His Lyre", "What Can We Do If We Crave Certainty in Mathematics?", and "The Enigmatic Number e", mentioned earlier.

I especially enjoyed the poems about the author's early life, such as "The Europe of My Childhood", a place that now "Only a poem can invoke"; "Animals One to Seven", with its wistful yet sharp description of holidays, animals, and a little girl not allowed or not able to change what she wants to; and "Trains", about leaving the place of her childhood, during which, as "dim figures grow dimmer", a life in mathematics begins as her "breath on the window pane / draws geometric patterns" and she corrects their shape.

In conclusion, the poems in this volume give a lively, enjoyable, and accomplished view of aspects of mathematics and of the love mathematicians have for it.

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