

## Poetry Folder: Mathematical Constants Beyond the Half-Circle

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### Recommended Citation

"Poetry Folder: Mathematical Constants Beyond the Half-Circle," *Journal of Humanistic Mathematics*, Volume 13 Issue 1 (January 2023), pages 291-296. . Available at: <https://scholarship.claremont.edu/jhm/vol13/iss1/23>

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JHM is an open access bi-annual journal sponsored by the Claremont Center for the Mathematical Sciences and published by the Claremont Colleges Library | ISSN 2159-8118 | <http://scholarship.claremont.edu/jhm/>

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## POETRY FOLDER



### *Mathematical Constants Beyond the Half-Circle*

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Circles are neat, we get it! And so is the constant  $\pi$ . All students learning about the mathematics of circles are introduced to it. This is often the first time students see an irrational number, let alone a transcendental one. The fact that the Greek letter that symbolizes this very special constant is pronounced the same way as a delectable dessert doesn't hurt, either. So it's not a surprise that poets, mathematical or otherwise, are inspired by  $\pi$  and all it represents.<sup>1</sup>

Still, we cannot help but feel for all those other constants out there representing cool mathematical ideas that never get their spot in the sun.

That is why in the last issue of the *Journal of Humanistic Mathematics* we put out a call for poetry about those other constants, special numbers that make models, move us through the complex plane, and otherwise enrich our lives.<sup>2</sup> And you delivered!

This folder contains five eclectic poems celebrating those constants beyond the half-circle, written by Robin Chapman, John Donoghue, Kevin Farey, Lawrence M. Lesser, and E. R. Lutken.

Please enjoy!

EDITORS OF THE *Journal of Humanistic Mathematics*

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<sup>1</sup> Even the Nobel laureate Wisława Szymborska has a poem about  $\pi$ , and an exquisite one: see <https://www.themarginalian.org/2017/10/23/wislawa-szymborska-pi/> for a beautiful reading of this poem by Maria Popova, who defines it as “an ode to the most precise language of the universe, mathematics, in the most precise language on Earth, poetry.”

<sup>2</sup> See Huber, M. and Karaali, G. “Mathematical Constants Beyond the Half-Circle: An Open Call for Poetry,” *Journal of Humanistic Mathematics*, Volume 12 Issue 2 (July 2022), pages 579–580 (available at: <http://scholarship.claremont.edu/jhm/vol12/iss2/39>).

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ONE—THAT SUCCESSOR OF ZERO  
Robin Chapman

birth of time's metronome,  
the conductor's upraised baton  
descending to start the universe

springing from seeds we take  
to precede the wake-up event  
(but there: between zero and one,

what kept the music waiting,  
cosmic musicians tuning up  
simple bits of dust and string?)

—anyway, waving the hand  
of thought, *one* springs forth,  
successor of zero

bursting full-blown  
from emptiness—something  
where there was naught—

Olympian gods  
descending from Zeus  
star maidens fall—

to start the counting  
of objects we've yet to specify—  
birds tallying seed,

squirrels burying their corn,  
black holes consuming  
or coughing stars,

time ticks by  
for each of us  
against oblivion.

---

ODE TO THE IMAGINARY UNIT  $i$   
John Donoghue

So strange when first you learn of it  
you feel you've come across a mathematic unicorn,  
or perhaps, more apt, Pinocchio's Blue Fairy  
since she too, like  $i$ , can make the imaginary real,  
although she never, in that story, does  
 $i$ 's other trick, and makes what's real imaginary.

No disrespect to  $\pi$ ,  $\sqrt{2}$ , or  $e$  or  $\phi$  is meant  
by praising  $i$ : those four, and others like them,  
will always be the movie stars, the real celebrities.  
Yet there  $i$  is, in plain sight, the beating heart  
of Euler's famed identity, an expression many claim  
is math's most beautiful.

So thank you, René Descartes, for giving us  
so magical a name; and (yet again!) thank you  
Leonhard Euler for using little  $i$   
to symbolize the clumsy  $\sqrt{-1}$ . Could you—possibly—  
have chosen  $i$  not from imaginary  
but because it links the number to the I  
in each of us, an I that can, if given half a chance,  
as well make real what we imagine?

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SHAMPOO  
Kevin Farey

There once was a number named Burt  
Who vanished headfirst in the dirt  
His real name was  $e$   
And at 2:43  
He showed up in the formula  $Pe^{rt}$ .

---

WON OV<sub>e</sub>R

Lawrence M. Lesser

The reciprocal  
function:  
variable  
under vinculum,  
scared schoolchild  
under desk.

Now  
plug in  
what bounds  
underlying  
unit area  
east of 1.

Naturally,  $1/e$ 's best  
chance to find the best  
single person  
(secretary or future fiancé(e)?)  
from single-file  
parade where you reject

the first  $1/e$   
(come and go with ease)  
then pick the first  
that beats all  
you passed.

The power

difference makes the relationship  
not so  
reciprocal after all. But  
if it succeeds,  
you'll feast  
at a high-end

restaurant that checks  
hats  
upon entry,  
unaware that's also  
the chance no one gets  
theirs back.

---

The Euler-Mascherioni Constant:

$$\gamma = \lim_{n \rightarrow \infty} \left[ 1 + \frac{1}{2} + \cdots + \frac{1}{n} \right] - \ln(n).$$

MEASURED ILLUSION

E. R. Lutken

harmonic series, etch a sketch tracing along the logarithmic line  
endless staircase cascading down a smoothed channel  
cobble-stone road of stories worn into history  
dubstep popping, swan-lake dance apace  
steps and thread neatly separated  
by one bare number, carried  
119 billion places so far  
we know it and don't  
rational, irrational  
transcendental  
algebraic?  
but we  
know  
it is  
real