Gmail Semjon Adlaj <semjonadlaj@gmail.com>

My letter on December 14, 2024

1 письмо

---------- Forwarded message --------- 22 января 2025 г. в 14:14
От: **Semjon Adlaj** <semjonadlaj@gmail.com>
Date: сб, 14 дек. 2024 г. в 00:23
Subject: Re: Your Submission
To: <monthly@maa.org>

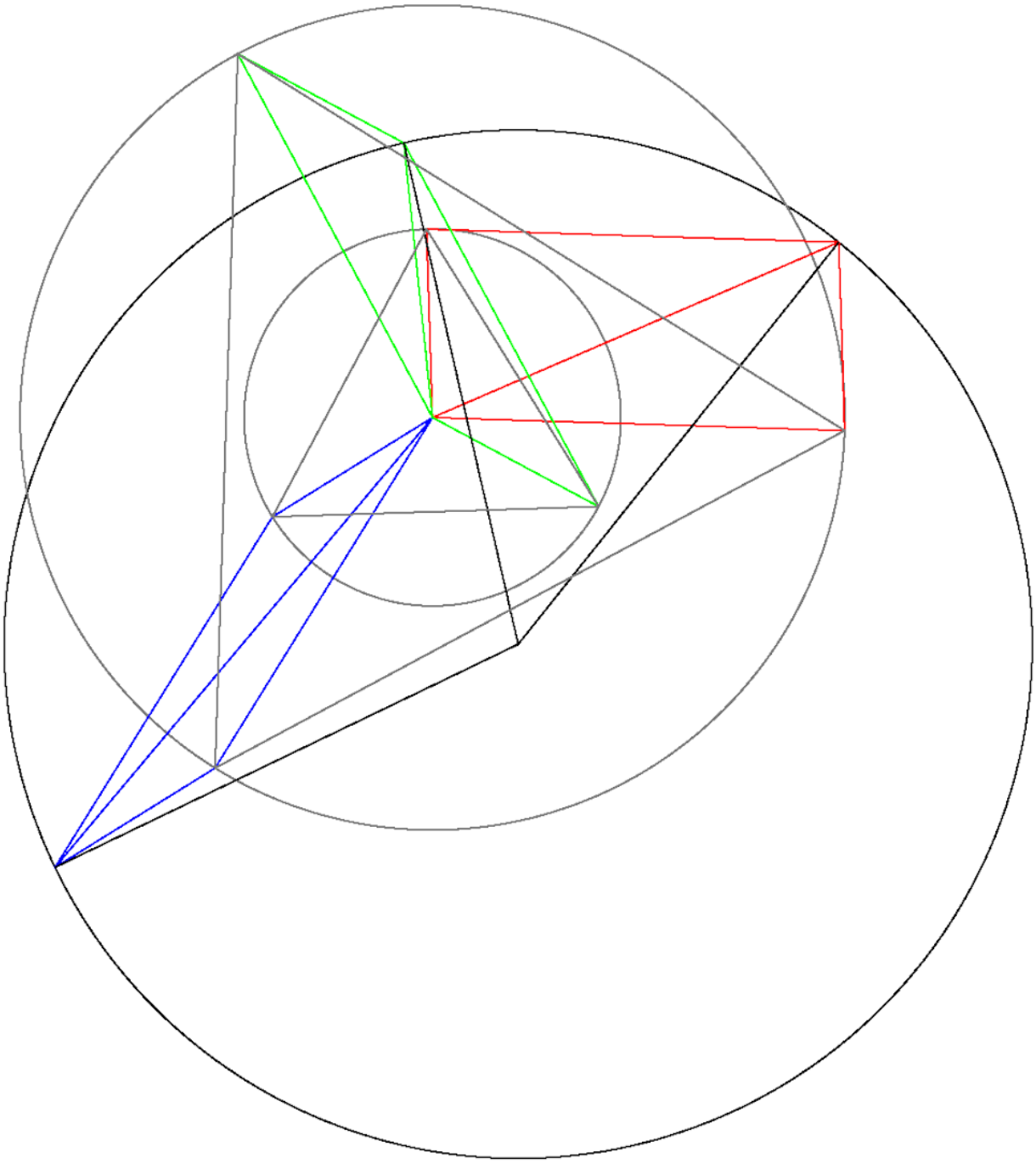
Dear Susan:

Please let me know whether my next (and most recent) construction of the hendecagon via quintisection, which I attach to this letter, is of interest to the readers of your journal.

Best regards,
Semjon Adlaj
https://semjonadlaj.com/

ср, 3 апр. 2019 г. в 08:40, Semjon Adlaj <semjonadlaj@gmail.com>:

> Thank you, dear Susan! I actually appreciate your detailed response and I am not at all disappointed since I, in fact, might have other unpublished short papers which could be of interest to your quite nice journal :)
>
> Best regards,
> Semjon Adlaj
>
> вторник, 2 апреля 2019 г. пользователь monthly monthly <monthly@maa.org> написал:
>
> > Dear Dr. Adlaj,
> >
> > I appreciate your clarification regarding what your work adds to the literature, namely, that you have a new, slightly shorter, heptagon construction. Nonetheless, we do not feel this merits publication in the *Monthly*, but perhaps in *The College Mathematics Journal*, or a journal devoted to research in Euclidean geometry, such as *Forum Geometricorum*.
> >
> > I recognize that this is not what you wish to hear. Please bear in mind that the acceptance rate for articles and notes in the *Monthly* is very low (roughly 10%), so we must frequently decline meritorious papers.
> >
> > Despite the negative outcome, we appreciate your interest in the *Monthly*.
> >
> > Sincerely,
> >
> > Susan Colley
> >
> > Editor, *The American Mathematical Monthly*
> >
> > On Tue, Apr 2, 2019 at 9:48 AM Semjon Adlaj <semjonadlaj@gmail.com> wrote:
> >
> > > Thank you, kindly, dear Susan for your carefully considered response and for the interesting reference on Andrew Gleason's quite nice earlier article in your journal. Indeed, my little article is meant to provide an explicitly concise and succinct construction of a heptagon where, in fact, referencing Gleason's article would be most appropriate. I might also reference a famous construction of the heptagon by John Conway. Yet, the construction, being offered, might well be
> >
> > the "briefest" :) And that is the one and only point to be made by me in sending my article to you. Of course, you might be able to refute me and let me know of another even shorter construction (which I have not thus far encountered), but then please do take a look once more at that red "almost rectangle" which suggests another "almost" straightedge and compass alone construction of the heptagon. As you see, the "naked" eye does not readily distinguish \pi/2 for (2\pi - Arctan(3 \sqrt 3))/3.



Best regards,

Semjon Adlaj

вт, 2 апр. 2019 г. в 11:54, American Mathematical Monthly <em@editorialmanager.com>:

> Ref.: Ms. No. MONTHLY-D-19-00219
> A heptagon constructed!
> The American Mathematical Monthly
>
> Dear Dr. Adlaj,
>
> I am writing about your paper, "A heptagon constructed!," which you submitted to *The American Mathematical Monthly*. I have reviewed your paper and discussed it with members of the Editorial Board.
>
> After careful consideration of your paper and the mix of topics we hope to bring to the *Monthly's* readers, the Board has decided to reject your manuscript. Here is a summary of the remarks I received on your paper from the Board.

“It is well known that a regular heptagon cannot be constructed with straightedge and compass alone. It is also known (see, e.g., https://en.wikipedia.org/wiki/Heptagon#Construction) that it can be constructed with a marked ruler and a compass, or with a ruler, compass, and angle trisector. This manuscript uses the latter set of tools. An angle trisector is very powerful–see, for example, Theorem 1 of https://www.jstor.org/stable/2323624, where it is proved that any root of a cubic with three real roots can be constructed this way. Theorem 2 of the same reference characterizes which regular polygons can be so constructed. Since the heptagon is covered by this theorem (and, indeed, is explicitly constructed on the second page of this reference), it is unclear what this manuscript adds to the literature. Consequently, we must decline the submission for publication.”

The decision to reject a manuscript is always difficult. The *Monthly* receives a large number of submissions each year, and we are able to publish only a small fraction of them. We regret that page limitations force us to turn away many fine papers.

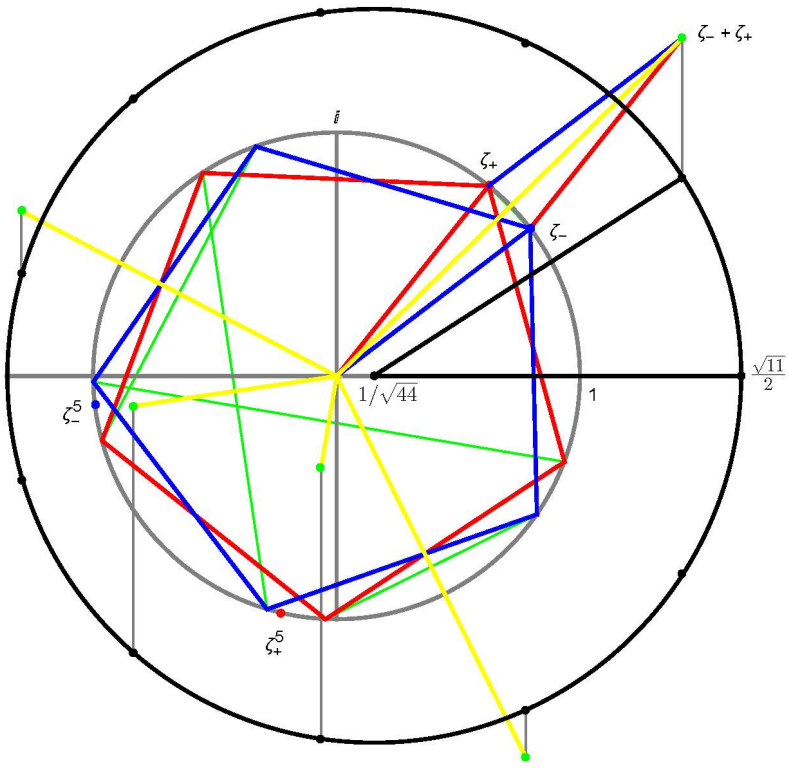
Thank you for submitting your paper to the *Monthly*. We wish you luck in finding an appropriate venue for your work.

Yours sincerely,

Susan Jane Colley, Ph.D.
Editor
The American Mathematical Monthly
In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Remove my information/details) Please contact the publication office if you have any questions.

A hendecagon construction via quintisection

The construction, as offered, requires angle quintisections. So, assume that we are given the ten vertices of two regular pentagons. The vertices are the fifth roots of the two (complex) numbers ζ_+^5 and ζ_-^5, where

$$\zeta_\pm^5 := \frac{\pm 25\sqrt{5} - 89 - 5\,i\,\sqrt{410 \pm 178\,\sqrt{5}}}{44\sqrt{11}},\ i := \sqrt{-1}.$$

Note that both numbers ζ_+^5 and ζ_-^5 lie in the third quadrant, and let ζ_+ and ζ_- denote their corresponding fifth roots in the first quadrant. Construct a circle centered at $1/\sqrt{44}$ with radius $5/\sqrt{11}$, and place a vertex on it at $\sqrt{11}/2$. Then the real part of the sum $\zeta_- + \zeta_+$ turns out to match the real part of a “next” vertex of a hendecagon thereby inscribed in the just-constructed circle.