Review of: "Relations between e, π and golden ratios"

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Potential competing interests: No potential competing interests to declare.

In the current paper, the author studies what is called p-sequences. In these sequences, initial values are given, then each next term is the sum of the previous p values. Of course, p≥ 1. The Fibonacci sequence is a special case of this sequence.

This notion of p-sequence was defined by the same author in unpublished paper, which is posted on arxiv at the time of this review.

I, the reviewer, have read the paper thoroughly, and looked into the results and the discussion.

Some equations or claims in this paper need justification. Otherwise, the validity of the results is questionable.

As such example, in equation (7), it is claimed that the limit of the ratio of successive terms in any p-sequence is a constant that depends only on p. Actually, in the reference [4] this was mentioned without a proof.

Since Mathematics is built on rigid proofs, we cannot accept the truth of (7), unless a rigorous proof is given.

Further, in equation (9), we have a sequence of increasing numbers. How can we say that

$$\frac{a_2}{a_1} = \frac{a_3}{a_2} = \cdots = \frac{\sum_{k=1}^{p} a_k}{a_p} ?$$

This equation cannot be assumed true for a general given increasing sequence (finite or infinite). Thus, equation (9) is questionable.

Moreover, going to the last section, where relations among those elegant numbers are given. The equations (19) and (20) are basically the same equation. Do we really need to write these equations in terms of

$$e \text{ and } \pi ?$$

In other words: Loot any any integer number, say 2. We can write

$$2 = 2e^{2i\pi}$$

as a possible relation among 2,e,pi. But is such relation interesting? The reviewer has real doubts about this.

In conclusion: I advise the author to revise his findings, by showing each statement of his claims. If a mathematical proof is not given, the results will not be considered true. This also applies for the reference [4] of the same author.

With all these comments, the current paper cannot be considered “Mathematically correct”.