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Peer Review

Review of: "Visualizing Generalizations of the Pythagorean Theorem"

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It is an interesting paper about the visual proof of the Pythagorean Theorem and some of its generalizations.

The intended audience is not clear. For the general public, it is a bit technical at some points; for a mathematician's audience, it is too "light".

One major error to start with: "The Pythagorean theorem, the unrivaled $a^2 + b^2 = c^2$". This is not the statement of the Pythagorean theorem; it is, at best, an invalid conjecture. Based on it, we could say, e.g., $1^2 + 1^2 = 5^2$. It should be, at least, "$a^2 + b^2 = c^2$, where a and b are ... and c is ...". This is one particular case of "Fermat's Last Theorem", but again, we cannot say only, a^n + b^n = c^n"; we have to say "no three positive integers (whole numbers) a, b, and c can satisfy the equation a^n + b^n = c^n, if n is an integer greater than two (n > 2)".

Visual proofs must be carefully stated and proved in order not to compromise rigor. I would like to see those "proofs" better supported by a more rigorous sequence of steps and proper "visual" reasoning.

Another issue that should be addressed is the bibliographic references. Almost all of them are referencing non-published (and not reviewed in some cases) web pages. They should be substituted by references to published material (that is not so prone to disappear).

Also, avoid grand statements like "is the most famous theorem". This can be close to true (common sense!?), but I would say that there are no definitive measurements that can prove that. Maybe something along the lines of "it is one of the most famous theorems" can be acceptable.

Declarations

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