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Short Communication

Mathematics: A philosophical approach to Fermat Last Theorem

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Considering the equation with infinite products z.z.z.z…= x.x.x.x…+y.y.y.y…and considering countable axiom of choice for at most 'y' elements sets we assume $5 \leq x \leq y$ C (2 through y) something which exists equal to something which does not exist (z.z.z…..z…..), the equation has no solution. Does it imply that the finite equations for $n \geq 5$ have no solutions? Intuitively, for me, it is the case. The relation between finite and infinite has to be investigated according to Godel theorem that we are always in need of new axioms. We will use a Custom-made axiom for the proof of Fermat last theorem

Keywords: Equation, axiom, elements.

INTRODUCTION

Fermat did not make public his proof for two reasons: it was only an outline of a proof and he was not satisfied with it (some case missing), it would have been considered blasphemous by the Church because of some infinite not existing. He would have had the same problem as Galileo Galilei. Equation of Fermat: Considering the equation with infinite products z.z.z.z…=x.x.x.x…+y.y.y.y……….and considering countable axiom of choice for at most y elements sets we assume 5<=x<=y C(2 through y) something which exists equal to something which does not exist (z.z.z…..z…..) the equation has no solution. Does it imply that the finite equations for n>= 5 have no solutions? Intuitively, for me, it is the case. The relation between finite and infinite has to be investigated according to Godel theorem that we are always in need of new axioms.

CUSTOM-MADE AXIOM FOR THE PROOF OF FERMAT LAST THEOREM

The disjoint union of a Cartesian product of a set (of a number of elements >=5) a number of times >=5 and of another (Of greater CARDINALITY) set the same number of times being OF THE SAME CARDINALITY THAN a Cartesian product of a third set the same number of times MAKES: the equality of the sum of the two cardinalities of the two first infinite Cartesian products with the cardinality of the third infinite product holds (for a set theoretical proof). Mr Andreas Blass wrote in 2002 about a complication for x,y and z integers less than 5 in: http://www.math.lsa.umich.edu/~ablass/dpcc.pdf. After centuries of research, we should have thought that a new axiom is needed for Fermat Last Theorem. The creativity of Fermat should not be doubted. The proof of Fermat used an equation with infinite products. It is completed by a set theoretical explanation. I am the author of « An axiom to settle the continuum hypothesis » Logic Colloquium 2004 (by title).

Conclusion

Fermat was reading Aristotle who wrote about the existence of the infinite. An extrapolation principle enables to go from the equation zn=xn+yn to z.z....z...=x.x....x...+y.y...y.... Mathematicians are waiting for someone to come up with an axiom from an intuition, I did and they do not recognize it. Excerpt from «All things are numbers (continuation)", abstract from the Logic Colloquium 2002 published in the Bulletin of Symbolic Logic: The equation with infinite products zzz…z…=xx…x…+yy…y… with z>y has no solution in the universe where only the restricted axiom CC(2 through x) is true. It is because otherwise the infinite products xx…x… and yy…y… exist but not zzz…z… and we cannot have a side of the equation existing and the other not. What could be a philosophical interpretation of the proof of Fermat Last

Theorem is that God is mysterious and not all powerful (the infinite is an attribute of God). Fermat was reading Descartes

about existence. Fermat was also reading Desargues about the point at the infinite I published in “A philosophy for scientists” Adib Ben Jebara Shield Crest Publishing UK 2015.

REFERENCES

Adib Ben Jebara (2015). “A philosophy for scientists” Shield Crest Publishing UK

Andreas B (2002). Sum, product and choice for finite sets. Available at: http://www.math.lsa.umich.edu/~ablass/dpcc.pdf

Bertrand R, Alfred W (1910). Principia mathematiica Cambridge university press 1910-1913 (3books)