



SDI Review Form 1.6

Journal Name:	<u>British Journal of Mathematics & Computer Science</u>
Manuscript Number:	Ms_BJMCS_33315
Title of the Manuscript:	THE PROPOSITIONAL LATTICE OF DIVISIBILITY AND BEAL'S CONJECTURE
Type of the Article	Original Research Article

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Concerning the paper on logic and Beal's conjecture, I do not agree with the conclusion of the author that <<Beal's conjecture cannot be proved <i>logically</i>, that is, it cannot be derivable by reasoning from the laws of logic of divisibility>>. The hypothesis that a, b, c be coprime to one another in the equation $X^p + Y^q = Z^r$, where $pq+1=r$, is to avoid trivial solutions like the following one. Say $c=a^p+b^q$. Consider $A=ac^{\{qr\}}$, $B=b^{\{pr\}}$, $C=c$. Then $X^p + Y^q = Z^r$ has the trivial solution A, B, C. A particular case of Beal's equation is $p=q=r$, namely Fermat's last theorem. The conclusion of the author would then be that <<Fermat's last theorem cannot be proved <i>logically</i>, that is, it cannot be derivable by reasoning from the laws of logic of divisibility>>. However, Fermat's last theorem was proved by Wiles. In conclusion I suggest not to accept this paper because the	Regarding the reviewer's disagreement with the manuscript conclusion, I would like to state the following: 1. As the manuscript Introduction reads, one can ask whether the simultaneous or pairwise coprimality of positive integers A, B and C demanded in Beal's conjecture has any intrinsic relation to the resolution of this conjecture. Particularly, can the concept of a lattice of divisibility and the corresponding logic of divisibility play a key role in proving or disproving this conjecture? Accordingly, that was the main aim of the manuscript, namely, the lattice-theoretic analysis of Beal's conjecture. 2. About relation to Fermat's Last Theorem: if any solutions had existed to this theorem, then by dividing out every common factor, there would also exist solutions with A, B, and C coprime. This means that Fermat's Last Theorem is a special case of the Beal conjecture restricted to equal powers of A, B, and C. But then again, being a special case implies that the proof of Fermat's Last Theorem can say nothing about the proof of Beal's conjecture (otherwise, it would not be a conjecture anymore).



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	Conclusion of the author is inappropriate.	3. The fact that the correctness of Beal's conjecture cannot be determined logically merely means that there does not exist a <i>general constructive method</i> capable of solving the cubed Diophantine equation in coprime natural numbers. In other words, this fact must be interpreted only as specified and nothing more. That is, it does not exclude the possibility of arriving at the correct solution to the Diophantine equation in coprime natural numbers A, B, and C in any powers x, y, z greater than 2 by <i>guessing only</i> .
Minor REVISION comments		
Optional/General comments		I would like to express my gratitude to the reviewer for time spent and consideration.