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| Journal Name: | [**Asian Research Journal of Mathematics**](https://journalarjom.com/index.php/ARJOM) |
| Manuscript Number: | **Ms\_ARJOM\_133524** |
| Title of the Manuscript: | **On Sumset Inequalities** |
| Type of the Article | **Original Research Article** |

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| **PART 1: Comments** |
|  | **Reviewer’s comment****Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | Corrections:Clarity and Readability:1. While the manuscript is well-organized, some sentences are quite complex and could be simplified for better readability.
2. Certain technical terms are introduced without sufficient explanation, which may make it challenging for readers unfamiliar with the topic. Providing brief definitions or explanations where necessary would improve accessibility.

Structure and Flow:1. The logical flow of ideas is generally good, but some transitions between sections could be improved to enhance coherence.
2. The introduction and conclusion sections would be stronger if they explicitly stated the research gap being addressed and the study's contributions.

Figures and Tables:1. Ensure that all figures and tables are properly labeled and referenced in the text.
2. Some figure and table captions are too brief providing more context would help readers interpret the data more effectively.

References and Citations:1. It is important to ensure that all citations follow the correct referencing style required by the journal.
2. Some references appear to be slightly outdated; including more recent studies where relevant would help strengthen the discussion.

Suggestions:Introduction:The introduction could be improved by providing a stronger opening to engage the reader. Clearly articulating the research gap and the importance of the study would strengthen this section.Methodology:The methodology section should ensure that all steps are clearly explained so that other researchers can replicate the study. Providing additional details where necessary will enhance transparency. |  |

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|  | Results and Discussion:When discussing the findings, it would be helpful to relate them more explicitly to existing literature. Avoid restating results already presented in tables or figures focus instead on interpretation and implications.Conclusion:The conclusion should reinforce the key takeaways of the study and highlight its practical implications. Additionally, suggesting directions for future research would be beneficial. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Rewrite the title as followsNew Insights on Sumset Inequalities" or "A Novel Approach to Sumset Inequalities. |  |
| **Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.** | Abstract:The abstract would benefit from a clearer summary of the research problem, methodology, key findings, and implications. A more structured approach would make it easier for readers to grasp the study’s significance. |  |
| **Is the manuscript scientifically, correct? Please write here.** | A few aspects should be carefully reviewed to ensure full scientific rigor:Mathematical Proofs & Justifications:1. The proofs should be carefully checked for completeness and correctness. Any assumptions should be explicitly stated to avoid ambiguity.
2. If any steps are omitted for brevity, providing references or brief explanations would help readers follow the reasoning more easily.

Clarity of Definitions & Theorems:1. Some terms and notations may require clearer definitions, especially for readers who may not be specialists in this field.
2. Ensure that all theorems, lemmas, and corollaries are stated precisely, with clear conditions and implications.

Relevance & Novelty:1. The study's contribution should be explicitly compared with existing results to highlight its significance.
2. If new inequalities are introduced, discussing their practical or theoretical implications would strengthen the manuscript.

Numerical Examples or Applications:* + If applicable, including numerical examples or specific cases demonstrating the effectiveness of the proposed inequalities would enhance clarity.

Citations & Prior Work:* + Ensure that all relevant prior research is acknowledged, and clearly distinguish new contributions from existing results.
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| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | - Some cited works may be slightly outdated. Mathematical research, especially in combinatorics and number theory, continues to evolve, and incorporating more recent papers would help contextualize the findings within current developments. |  |

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|  | * Checking for recent studies (within the last five years) on sumset inequalities or related topics in additive combinatorics could strengthen the manuscript.
* he manuscript appropriately cites classical results, but it would be beneficial to ensure that recent advancements in sumset inequalities or additive combinatorics are also referenced.
* If new techniques or improvements are introduced, referencing similar recent approaches can provide a stronger comparison.
* Papers by Tao and Vu on additive combinatorics may be useful if not already included.
* More recent works published in Mathematical Proceedings of the Cambridge Philosophical Society, Journal of Number Theory, or Advances in Mathematics could provide additional context.
* If applicable, reviewing recent arXiv preprints on sumset inequalities might reveal relevant new research.
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| **Is the language/English quality of the article suitable for scholarly communications?** | Grammar and Language:1. There are minor grammatical errors and awkward phrasings throughout the text. A careful proofreading or language review would be beneficial.
2. Some sentences are quite long and may be difficult to follow. Splitting them into shorter sentences where appropriate would improve comprehension.
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| **Optional/General** comments |  |  |

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| **PART 2:**  |
|  | **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)* |
| **Are there ethical issues in this manuscript?**  | *(If yes, Kindly please write down the ethical issues here in details)* |  |

 **Reviewer details:**

 **Elayaraja Aruchunan, Universiti Malaya, Malaysia**