

Review Form 1.7

Journal Name:	Asian Research Journal of Mathematics
Manuscript Number:	Ms_ARJOM_116431
Title of the Manuscript:	Re-investigation of the Foundation of Moment of Inertia by Means of Zero and Minus One Factorial.
Type of the Article	

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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)
<p><u>Compulsory</u> REVISION comments</p> <ol style="list-style-type: none"> 1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript) 2. Is the title of the article suitable? (If not please suggest an alternative title) 3. Is the abstract of the article comprehensive? 4. Are subsections and structure of the manuscript appropriate? 5. Do you think the manuscript is scientifically correct? 6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form. <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>Little.</p> <p>Can be checked</p> <p>Needs to improve</p> <p>Yes.</p> <p>Somewhat.</p> <p>Should be improved</p>	
<p><u>Minor</u> REVISION comments</p> <ol style="list-style-type: none"> 1. Is language/English quality of the article suitable for scholarly communications? 	<p>Moderate revisions.</p>	
<p><u>Optional/General</u> comments</p>	<ol style="list-style-type: none"> 1. The results presented in the manuscript are not sufficiently detailed or robust to fully support the research objectives. Consider providing more data, analyses, and interpretations to strengthen the credibility and significance of the findings. 2. Ensure that the results section includes all relevant statistical analyses, measurements, and outcomes that directly address the research questions or hypotheses. This will enhance the clarity and comprehensiveness of the reported results. 3. The discussion section needs to be more substantial and detailed in analyzing and interpreting the results obtained. Expand upon the implications of the findings and relate them back to the existing literature and theoretical framework. 4. Provide in-depth explanations of how the results align with or diverge from previous studies, theories, or expectations. Discuss any limitations or potential sources of error and their impact on the interpretation of results. 5. Elaborate on the methodologies used in the study, including experimental procedures, data collection methods, and analytical techniques. Ensure clarity in describing the steps taken to conduct the research. 6. Incorporate comparative analyses with existing literature or alternative approaches to highlight the strengths and limitations of the current study. This will provide a more comprehensive understanding of the research context and contribute to a more informative discussion. 7. Enhance the investigative aspect of the study by delving deeper into the research questions, exploring alternative hypotheses, or conducting additional analyses to strengthen the overall research inquiry. 	

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	<ol style="list-style-type: none">8. Provide detailed explanations and step-by-step breakdowns of complex mathematical derivations to enhance readers' understanding. Include additional examples or visual aids to illustrate key concepts.9. Integrate practical examples or applications to demonstrate the relevance of the theoretical concepts discussed in the manuscript. Connecting abstract mathematical theories to tangible real-world scenarios can improve readability and engagement.10. Add a robust conclusion that summarizes the key findings, reiterates the significance of the research, and potentially discusses the implications of the results in the broader context of the field of study.11. Introduce a future work section that outlines potential directions for further research, suggests unresolved questions or areas for exploration, and offers recommendations for extending the current study.12. How can the unique mathematical framework involving factorial values and the concept of zero be applied to further enhance the understanding of moment of inertia in rotating objects, and what practical implications does this have for engineering and physics applications?13. Alternative approaches to solving real-world problems involving rotational motion and dynamics.14. A crucial element of any academic paper is the conclusion section, where the key findings, implications, and summary of the research are typically discussed. It is essential to include a well-defined conclusion that revisits the main points of the paper and provides closure to the discussion. The conclusion should reflect on the significance of the results obtained and how they contribute to the field of study.15. The breakdown of the series into two groups and the subsequent manipulation to arrive at the sum of $(-1)^n$ terms is a notable mathematical deduction. The authors may need to provide a step-by-step explanation to guide readers through the process and ensure clarity.16. The observation regarding the order of increasing magnitudes being disrupted after the $(-1)^n$th term in the series $1 + 2 + 3 + \dots$ is intriguing. It is essential for the authors to elaborate on the significance of this observation and how it relates to the overall argument or mathematical concept being discussed.17. The differentiation between the series $1^p + 2^p + 3^p + \dots$ and the series $1^p + 2^p + 3^p + \dots + (-1)^n p$ for values of $p > 0$ is an interesting point. Exploring the implications of this difference in the context of summing powers of natural numbers can provide valuable insights for readers.18. Bringing in historical context such as Jakob Bernoulli's work in <i>Art Conjectandi</i> of 1713 adds depth to the discussion. The authors could further elaborate on how Bernoulli's findings contribute to the understanding of summing powers of natural numbers and its relevance to the current discourse.19. Providing concrete examples or applications of the mathematical principles being discussed can help readers grasp the significance of these concepts in a practical context. This can enhance the accessibility and relevance of the content to a wider audience.20. The clarification on the term $X mr^2$ being the moment of inertia of the body about the axis of rotation is essential for readers to understand the subsequent discussions. The authors might want to further elaborate on the significance of moment of inertia in physics and engineering applications.21. The questions posed regarding the number of particles in the massive body and the magnitude of mass of each particle are intriguing. It raises important theoretical considerations regarding the nature of particles and the concept of mass. Exploring these questions in more depth can add value to the paper.22. The discussion on the distinction between zero and absolute nothing in Section 2 is fundamental to the understanding of these concepts in mathematics and philosophy. The historical context provided with references to Indian mathematicians and John Craig adds depth to the narrative.23. The exploration of the infinite number $(-1)^n$ in Section 3 and its connection with zero opens up intriguing possibilities for redefining mathematical concepts. It is crucial for the authors	
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	to clearly demonstrate how these theoretical constructs contribute to a new understanding of moments of inertia. 24. Sections 4 and 5 seem to delve into the arithmetic implications of zero and $(-1)!$, which could provide a solid mathematical basis for the subsequent discussion on moments of inertia in Section 6. Ensuring a smooth transition between these sections is important for maintaining the coherence of the paper.	
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PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Ebrahim E. Elsayed
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