

Analysis of ChatGPTs Effectiveness in Solving Mathematical Problems for Two Categories in the Mathematical Kangaroo Competition

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Abstract. In recent years, with the development of artificial intelligence, questions about the use and integration of AI in education have become increasingly prominent, creating new opportunities for support to students, teachers, and researchers. In mathematics education, AI is increasingly utilized to solve specific problems, analyze solutions, and assess answer accuracy, thereby enabling students to gain a better understanding and enhancing their progress. Such research directs attention to the effectiveness of AI tools in various mathematical domains and across tasks of different difficulty levels, exploring their capabilities and limitations in line with educational goals. This paper focuses on analyzing the success of ChatGPT (free version) in solving problems from the Mathematical Kangaroo Competition for the Cadet and Junior categories. The study also includes an assessment of ChatGPTs answer accuracy, depending on the area of the task and its level of difficulty. In this way, we explored the advantages and limitations of this model as support for students preparing for competitions involving non-standard mathematical problems [1–3].

Keywords: Mathematical Kangaroo Competition, ChatGPT, Artificial Intelligence

References

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