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Study on Fuzzy Transportation Problem using Icosikaitetragonal Fuzzy Number

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Abstract: *The transportation problem represents a specific category within the applications of linear programming. Typically, this problem assumes that the decision-maker possesses precise knowledge of transportation costs, as well as the supply and demand for the product. However, there are instances where the decision-maker cannot define the objective with certainty and must instead rely on fuzzy concepts. In this study, we examine the fuzzy transportation problem (FTM) utilizing Icosikaitetragonal fuzzy numbers and their associated membership functions. We have established a ranking system for these fuzzy numbers to transform the fuzzy-valued transportation problem into a crisp-valued one. To demonstrate these methodologies, we have resolved a real-world issue using the Least Cost Method.*

Keywords: Fuzzy transportation problem (FTM), Icosikaitetragonal fuzzy number, membership function, least cost method