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Analyzing Functions of Multiple Variables to Determine the Best Replenishment Policy for Deteriorating Items

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Abstract: *Optimization problems are ubiquitous in various fields, including engineering, economics, and data science. This paper delves into the critical role of continuity and differentiability in the context of two-variable functions when addressing optimization problems. By examining the mathematical foundations and real-world applications, we aim to provide a comprehensive understanding of how these fundamental concepts drive efficient optimization techniques.*

Keywords: Two Variable Functions, Optimization Problems, Multivariable Calculus

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