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Food for Thought

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A Standard Introduction to Nonstandard Analysis

Abstract:

Nonstandard analysis involves the direction manipulation of infinite and infinitesimal quantities to circumvent many uses of epsilons and deltas in analytical arguments. These techniques provide a new perspective on analysis, and they can make rigorous many intuitively appealing arguments that are difficult to formalize with the standard approach. In this talk, we will build the logical foundation for nonstandard analysis and the ever-important transfer principle, and discuss some applications. For instance, we'll reinterpret the df/dx notation for derivatives as a genuine quotient of infinitesimals.

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