

# Redefining the infinitesimals

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## Abstract

In this paper, we redefine the infinitesimals by using axiomatic method.

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## 1 Introduction

So far, the best definition of the infinitesimals is in [Rob74]. Our motivation is to find the “possible” satisfactory definition of the infinitesimals.

## 2 Results

We try to propose the redefinition of infinitesimals in the following axiom:

**Axiom 1.** Let  $e$  be the infinitesimal. Then:

1.  $e \neq 0$ .
2.  $0 < e < 1$ .
3.  $e = 1/n$ .

We hope the definition can help us to understand the behavior of infinitesimals.

## References

- [Rob74] A. Robinson. *Non-Standard Analysis*. Princeton University Press, 1974.