structure of finite hyperreal numbers

Canonical name	StructureOfFiniteHyperrealNumbers
Date of creation	2013-03-22 17:26:02
Last modified on	2013-03-22 17:26:02
Owner	asteroid (17536)
Last modified by	asteroid (17536)
Numerical id	4
Author	asteroid (17536)
Entry type	Theorem
Classification	msc 26E35

Theorem - Every (or) hyperreal number $x \in {}^*\mathbb{R}$ admits a unique of the form

$$x = a + \epsilon$$

where $a \in \mathbb{R}$ and ϵ is infinitesimal.

Remark : This theorem just says that every finite hyperreal number has a real part and an infinitesimal part (just like real and imaginary parts in complex numbers).