

Re: Contradiction-free mathematics (The new nonstandard analysis)

Source: <http://sci.tech-archive.net/Archive/sci.math/2006-01/msg04860.html>

- From: matthias@xxxxxxxxxxx
 - Date: 29 Jan 2006 18:10:29 -0800
-

E. E. Escultura

>7) A real number is normal if every digit can be determined by choosing a digit from the basic integers, 0, 1, ..., 9, at random. Let x be a real number and y a normal number. While every digit of y can be determined or computed and is, therefore, well-defined, it IS not known if $x < y$ or $x = y$ or $x > y$. This is a counterexample to the trichotomy axiom.

You contradict your definition that your "real numbers" are computable decimal expansions. No computable decimal expansion is normal in the sense you describe.

.

- Follow-Ups:
 - ◆ [Re: Contradiction-free mathematics \(The new nonstandard analysis\)](#)
◇ From: matthias
- References:
 - ◆ [Re: Contradiction-free mathematics \(The new nonstandard analysis\)](#)
◇ From: Robert J. Kolker
 - ◆ [Re: Contradiction-free mathematics \(The new nonstandard analysis\)](#)
◇ From: E. E. Escultura
- Prev by Date: [Derivate OFa number](#)
- Next by Date: [Re: ALL functions are continous!](#)
- Previous by thread: [Re: Contradiction-free mathematics \(The new nonstandard analysis\)](#)
- Next by thread: [Re: Contradiction-free mathematics \(The new nonstandard analysis\)](#)
- Index(es):
 - ◆ [Date](#)
 - ◆ [Thread](#)