Re: Question

Source: http://sci.tech−archive.net/Archive/sci.math/2006−04/msg05145.html

- *From*: magidin@xxxxxxxxxxxxxxxxx (Arturo Magidin)
- *Date*: Thu, 27 Apr 2006 20:38:34 +0000 (UTC)

In article <1146169646.101883.284550@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
zuhair <zaljohar@xxxxxxxxx> wrote:

> > Just because you don't like the answer does not mean it is not an
> > answer. Your question was the logical equivalent of "what kind of duck
> > is a fox terrier?" It would seem you would consider the answer "a fox
> > terrier is not a duck" to be "an escape rather than an answer."
> >
> > A sequence is, BY DEFINITION, a map whose domain is the natural
> > numbers.
>
> Fair enough, this mean that the biggest number of terms in a sequence
> would be Omega.

You really need to stop using standard mathematical words with your
own private meaning.

"Omega" is not a "quantity"; you do not speak about there being "omega
things". Omega is an ordinal. It corresponds to a well−ordering type.

And, no. It means EXACTLY that a sequence is a function whose domain
is the natural numbers. There are −>exactly<− one term for each
element of omega. Not "the biggest number of terms". There is exactly
one term for each element of omega.

> Or in other words a sequence either contains n terms when n is finite,
> or Omega of terms if the number of terms in it is infinite.

Will you ever learn to read?

A sequence is a function whose DOMAIN is the natural numbers. Not

whose domain is a subset of the natural numbers. There is always one term for each natural number.

If you want to talk about "finite sequences", whose domains are the sets I called "n" (where the set 0 is the empty set, and the set "n+1" is the set {0, 1, ..., n}), then call them finite sequences.

> Therefore the decimal expansion of 0.99999..... has Omega of 9 in it.

No. Omega is not a quantity. omega is an ordinal.

> and I repeat it would be lesser than 1 by 1/10^Omega.

And it does not matter how many times you repeat it, it is still nonsense. The decimal expansion represents a sequence. The sequence is equivalent to the constant sequence 1, and therefore, since "1" and "0.999..." are two distinct representations of the same equivalence class, they are the SAME real number, by definition.

> Perhaps this is non sense. I don't know.

Yes, you do know. Because you have been told this many times. You just ignore it and repeat it over and over and over. No matter how often you repeat it, it is still nonsense. The symbol "10^omega" does not represent a real number. You can define addition and multiplication of ordinals, as well as exponentiation; under the standard definitions, 10^omega is the ordinal omega. And there is no standard definition of "division of ordinals", so no matter how many times you repeat the nonsense of writing "1/10^omega", it is still a symbol that lack any meaning. It is nonsense.

Just because you can write down a symbol it does not, ipso facto, grant it sense.

> However you succeeded in illustrating to me that the symbole 0.9999.....9 is not a sequence

> simply because the last 9 though a finite number but it is at a transfinite position that is Omega+1

Actually, no. It would be in position omega, not position omega+1. The
order type of the digits is Omega+1; that is, your symbol represents a
function with DOMAIN omega+1, which has value 9 at each natural number
and value 9 at omega (recall that, BY DEFINITION,
omega+1 = omega \/ {omega} = {0, 1, 2, ..., n, ...} \/ {omega}

> and therefore it is not a sequence.
>
> well according to what you are saying then 1/10^Omega =0

No. It still has no meaning whatsoever.

> according to
> standard mathematics.

No. According to standard mathematics, the symbol you insist on
repeating is still complete and utter nonsense.

> which something very strange as I see.

That is quite plain.

−−
==========
"It's not denial. I'm just very selective about
what I accept as reality."
−−− Calvin ("Calvin and Hobbes")
==========

Arturo Magidin
magidin@xxxxxxxxxxxxxxxx

.