

Re: abundance of irrationals!)

Source: <http://sci.tech--archive.net/Archive/sci.math/2005-05/msg03092.html>

- *From:* Virgil <ITSnetNOTcom#virgil@xxxxxxxxxxx>
 - *Date:* Mon, 16 May 2005 12:01:17 -0600
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In article <MPG.1cf27a09b8a6b6d989c5b@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Tony Orlow (aeo6) <aeo6@xxxxxxxxxxx> wrote:

> Virgil said:

>> In article <MPG.1ceedc886b8bb200989c50@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>,

>> Tony Orlow (aeo6) <aeo6@xxxxxxxxxxx> wrote:

>>

>>> Virgil said:

>> So the empty set is NOT finite?

> It's infinitesimal, like zero. Set size = 0. Is that a positive number?

It is surely finite! At least for everyone except TO.

And "infinitesimal", when allowed at all, is almost always reserved for things that are specifically NOT zero.

>> In my book when something is not finite, it is not finite, which is what

>> "in"finite means to everyone except TO.

>>

>> For TO there is apparently a classification that is neither finite nor

>> not finite. He must be working with a multivalued logic system where

>> things which are not true have alternatives other than false.

> I am simply trying to give you a term to describe your problematic definition

> of the naturals, so you can talk about your useless set without contradicting

> yourself.

I do nicely with "finite" and "not finite", thank you. If TO is confused by that, it is not my fault.

>>

>> In all cases a set is determined solely by what are or are not members

>> of it, and by nothing else.

> And set membership is defined by some function, even if that function is a

> simple enumeration.

For any given set, there are functions defined by membership in that set.

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- >> The only time functions are required is to compare sets, not to build
- >> them in the first place, unless one is building a set of functions.
- >
- > If the set is defined by a function, like the set of all squares, then that's
- > the definition of the set, which can be used as a mapping function. What else
- > defines the set you are talking about?

To have a function, one must first have a domain and codomain, which are sets which must exist before any function from the one to the other can exist. If anything is a priori, it is the sets and not the functions, except possibly in category theory.

- >>>>> Note that, by this definition, each N_n is finite but that N is
- >>>>> infinite.
- >>>>>
- >>>>> Yes, it's poorly defined. Shall I repeat that again?
- >>
- >> Repeating it will not make it any less false.
- >
- > And apparently showing you exact math that contradicts your vague derivations
- > doesn't make any difference either.

Why don't you try it and see? If you ever did any "exact" mathematics, you might be as surprised as the rest of us surely would be.

- >>> "you" don't define anything.
- >> Most of what I state as definitions here are generally accepted
- >> mathematical definitions, so not "mine" in that sense.
- >>
- >> If TO can't hack math, nobody is forcing him into it.

- > I am doing real math. You are blindly accepting definitions which
- > upon close scrutiny are inherently inconsistent, and placing beliefs
- > in a system which you admit has nothing to do with any other math, or
- > with reality.

I have yet to see TO doing anything seriously mathematical.

The definitions to which TO's objects have been subjected for generations to much harsher scrutiny than TO is capable of, and no such inherent inconsistencies have been found. And even I can easily spot the inconsistencies in TO's charges of inconsistency.

As to the reality of mathematics, I take a moderately Platonic view.

- >>> Does cardinality agree with ANYTHING else? no.

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- >> If cardinality is consistent with itself, that is all that is needed,
- >> and neither TO nor anyone else has shown it not to be.
- >
- > Sure, and if Cantor agrees with himself, that is all that he needs as well,
- > despite the fact that everyone else in the world disagrees.

Not everyone! I do not disagree. The majority of mathematicians do not disagree. In fact the majority of people in the world, being totally unaware of the issue, neither agree nor disagree. Most of those aware of the issue agree with Cantor.

- >>
- >> Orlow has yet to present any definition of "size" of sets that can be
- >> shown to satisfy all four the properties of a total order above. The
- >> subset ordering satisfies properties 1,2 and 3 but not 4. Every
- >> extension of ordering by subset extended to other sets that is
- >> sufficient to establish 4 has been shown to violate one of the others.
- >>
- >> Given the axiom of choice, Cardinality has been proved to have them all.
- >>
- > That's very nice for you.

Agreed.

• **References:**

- ◆ **Re: abundance of irrationals!)**
◇ From: aeo6
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◇ From: Randy Poe
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◇ *From: Virgil*

◆ ***Re: abundance of irrationals!)***

◇ *From: ae06*

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