Re: ** says: Definition: sum{i in N} i = 0

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- *From*: WM <mueckenh@xxxxxxxxxxxxxxxxx>
- *Date*: Fri, 06 Jul 2007 01:26:11 −0700

On 6 Jul., 04:08, "Dik T. Winter" <Dik.Win...@xxxxxx> wrote:

> In article <1183441649.404036.29...@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> WM
> <mueck...@xxxxxxxxxxxxxxxxx> writes:
> > On 3 Jul., 04:37, "Dik T. Winter" <Dik.Win...@xxxxxx> wrote:
> ...
> > > > The declaration of 0 as a natural number.
> > >
> > > Again, nothing more than opinion. Moreover, they are not the only ones
> > > who do that.
> > >
> > If you can't see the facts supporting this opinion (discovery of 0
> > much later than discovery of genuine natural numbers) then further
> > discussion is meaningless.
>
> So in giving names in mathematics you should consider history, otherwise
> you are wrong? Sorry, in mathematics a term defines just what is given
> in its definition. Nothing more, nor less. And different people give
> the same name to different things.

The name is at least part of the definition because all definitions
consist of words many of which are names for notions. So it would make
mathematics unnecessary complicated if every name meant the opposite
of its usual meaning.

> > > Yes, especially your abuse.
> >
> > If you can't see the facts supporting my discovery (lim_[x −−> oo]
> > P(x)/K(x) in the binary tree) then further discussion is meaningless.
>
> Yes, it is meaningless because you do not see that that limit is *not*
> the necessary value.

The limit is not necessary the value, but for continuous functions it
is. lim [x−−>o] sinx/x = 1 unless you define another value at x = 0
and by that make the function discontinuous. The paths of the tree are

continuous, however. Therefore the limit P(x)/K(x) is the only
possible choice.

But the problem is the same as with Sum(N). If you insist that it
could be 0, then you can prove everything you desire, including the
existence of more paths than nodes in the tree.

> > > Your assertion is wrong, because an identity implies that both parts
> > > are simultaneously defined or both are undefined.
> > >
> > > SUM_[n = 1 to oo] a_n == LIM_[k −−> oo] SUM_[n = 1 to k] a_n
> >
> > But in that case there *must* be a definition of the left−hand side without
> > reference to the right hand side.
>
> The left hand side is an abbreviation of the right hand side.

Wrong. It is only an abbreviation of the right hand side when the right
hand side is defined.

But it is defined. Compare Springer online or any other good book on
analysis.

> > But whatever, this make
> > sum{n = 1..oo} n
> > undefined because
> > lim{k −> oo} sum{n = 1..k} n
> > is undefined in ordinary mathematics. In H&J the "sum" above is *not*
> > defined using limits.
>
> SUM {n = 1..oo} n is undefined as the result of throwing dice is
> undefined in advance. Nevertheless the result cannot be negative. So
> much logic thinking should be available.
> If you can't see this fact, then further discussion is meaningless.

You are still wriggling. The sum is undefined using ordinary mathematics,
nevertheless it is possible to give a definition (so much for your
identity). Stating that something that is undefined can be compared
with something that is well−defined borders on nonsense.

Stating that some that it undefined in R because it cannot be defined
in R, can be defined in R, is nonsense.

Regards, WM

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