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

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- *From*: Virgil <virgil@xxxxxxxxxxx>
- *Date*: Thu, 28 Jun 2007 00:02:27 −0600

In article <1183009493.535511.143310@xxxxxxxxxxxxxxxxxxxxxxxxxxx>,
WM <mueckenh@xxxxxxxxxxxxxxxxx> wrote:

> On 27 Jun., 19:43, Virgil <vir...@xxxxxxxxxxx> wrote:
>
> > In article <1182933394.549064.286...@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
> >
> > WM <mueck...@xxxxxxxxxxxxxxxxx> wrote:
> >
> > > The Binary Tree
> > > Let [x] = n <= x such that n + 1 > x, i.e. n is the largest
> > > integer <=
> > > x.
> > > Let]x[= n >= x such that n − 1 < x, i.e. n is the smallest
> > > integer
> > >
> > > > = x.
> > >
> > > Level
> > >
> > > |0 0.
> > > | / \
> > > |1 0 1
> > > | / \ / \
> > > |2 0 1 0 1
> > > | /\ /\ /\ /\
> > > v x

>> At height x the number of nodes is K(x) = 2^[x+1] − 1.
>> At height x the number of separated path bunches is P(x) =
>> 2^]x[.

> At level n, as indicated above, the number of paths in the finite tree that ends at level n is Card(P({x in N\/{0}: x < n}))
>
> Thus the number in the infinite tree is Card(P(N))

>> In height x the quotient P(x)/K(x) = (2^]x[) / (2^[x+1] − 1)

>> In the whole tree we can estimate
>> P/K = lim_{x −−> oo} (2^]x[) / (2^[x+1] − 1) < 2.

> The ratio only holds for finite trees, In an infinite tree there is a different path for each different subset of N, so the number of paths equals the number of subsets of N, which is greater than the number of elements of N.

>> Would you agree that this result is correct although there is
>> not a
>> limit in the usual sense.

> I would agree that there is one path for each subset of N.

>> Or would you prefer to say that because of
>> the quotient is alternating between the epsilon surrounding of
>> 1/2 and
>> the epsilon surrounding of 1 the true result is 2^aleph_0?

> Since I see the reality of a bijection between the set of paths ad the set of subsets of N, I say the result must be larger than Card(N)

That means
P/K = lim_{x −−> oo} (2^]x[) / (2^[x+1] − 1) > 2
or set theory is selfcontradictory.

It only means that, as usual, WM has the wrong end of the stick.

WM is claiming that a rule that only applies to some paths because they have leaf nodes must apply to paths not having leaf nodes also.

The only contradiction is between WM's assumptions and the realities of mathematics.
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