Re: infinity

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- *From*: Tony Orlow <aeo6@xxxxxxxxxxx>
- *Date*: Thu, 13 Oct 2005 15:30:21 −0400

Daryl McCullough said:
> Tony Orlow says...
>
> >> A sequence of length aleph_0 has a domain equal to the set of all
> >> ordinals less than aleph_0.
> >So, you are placing aleph_0 directly after the largest finite?
>
> How many times do you have to be told: There *is* no largest
> finite! aleph_0 is placed after *all* finite ordinals.
And has no predecessor. Good way to kludge away the largest finite.
>
> Here's a way to visualize countable ordinals that might
> make sense to you.
>
> Take the real number line, and label the point 0 with the
> ordinal 0. Label the point 1/2 with the ordinal 1. Label
> the point 2/3 with the ordinal 2. In general, label the
> point n/(n+1) with the ordinal n. Finally, label the
> point 1 with the ordinal aleph_0.
The point 1 is not included unless you allow infinite n, right?
>
> Note: the finite ordinals are the labels for reals of
> the form n/(n+1). There is no largest real of that form,
> but the real 1 is larger than *any* of them.
When n=oo.
>
> >That's what it seems like. Each of those sets you mention
> >has a largest element 1 less than its size.
>
> Right. That pattern holds for every finite set. That's
> because finite sets of naturals have a largest element.
> Infinite sets of naturals *don't* have a largest element.
But then, the largest of tha