

Re: Ultimate debunking of Cantor's Theory

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In article <1184550638.931818.34560@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Calvin <crice5@xxxxxxxxxxxxxxxx> wrote:

After finally accepting everything else, I was still having trouble with the notion that one couldn't use 'not having a largest element' to prove that a set is infinite, if it is a subset of the naturals, integers, rationals, or reals, all of which are one-dimensional number systems.

IF one has a non-empty ordered set without a largest element, one can easily prove that it satisfies the Dedekind definition of being infinite, which is that it allows an injection to a proper subset. This can always be done by allowing a mapping of the members greater than or equal to some fixed member each to a member strictly larger than itself, and the identity map on all smaller members.

If one defines finiteness as being bijectable with a natural (or a set with only a natural number of members) the same construction proves it not finite.

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