Re: Distinct linear orderings on Z

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In sci.math Giuseppe Bilotta <bilotta78@hotpop.com> wrote:
: Albert Wagner wrote:
:> Look at your 'definition' restated, but without changing the
:> meaning: A set S is said to be infinite if a proper subset of S
:> is also infinite (in which case a bijection would exist).'

: Wrong. The original definition makes no statement whatsoever
: about the finiteness or not of the subset.

: *You* are deducing that the subset is itself infinite
: (something which, BTW, you can only deduce if you accept that a
: set which is in bijective correspondance with another set has
: the same finiteness property; where do you get this from?), and
: putting it back in the definition.

It is fairly easy to prove that if A is infinite, meaning
that there exists a bijection between A and a proper subset
of A, and that if there exists a bijection between A and some
set B, then B must also be infinite. It is a consequence
of the definitions, not part of the definitions.

Let f be the mapping from A to B, and let f' be the
mapping from B to A (ascii notation is rather limiting).
Let g be the mapping from A to a proper subset.

Then f(g(f'(x))) maps B to a proper subset of B.

No recursion necessary.

I would like to see an example of a definition as
defined by the philosophers. Of course one of their
rules seems to be that you cannot define by example,
which seems to be a handy excuse for never having
to actually demonstrate what they mean by anything.

They various definitions proposed for "circle" have
been very weak and supposed all sorts of other definitions
such as "motion", "line", "rate" and required myriad

assumptions about how those words are defined.

Stephen