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

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- *From*: Han de Bruijn <Han.deBruijn@xxxxxxxxxxxxxx>

- *Date*: Mon, 16 Jul 2007 16:02:09 +0200

G. Frege wrote:

> On Mon, 16 Jul 2007 15:08:25 +0200, Han de Bruijn
> <Han.deBruijn@xxxxxxxxxxxxxx> wrote:
>
>> But I'm fascinated by the fact that there exist NO other shapes of the
>> sin(x)/x rather than the sinc(x) function in the real (physical) world.
>> Only _this_ one is relevant:
>>
>> sinc(x) = sin(x)/x for x <> 0
>> = 1 for x = 0
>>
>> And I'm asking the community to explain this (not by coincidence) fact.
>
> It's just that this is the ONLY possible extension of x |−> sin(x)/x
> from (the domain) IR\{0} to IR such that the resulting function is
> continuous (and even differentiable) on (all of) IR.
>
> You know, there's an old saying "Natura non facit saltus" ("nature
> does not make (sudden) jumps"), though I'm in doubt if this statement
> can still be considered to be true in the light of modern quantum
> mechanics.
>
> See:
> http://en.wikipedia.org/wiki/Natura_non_facit_saltus

How about "physical" functions which are defined at a closed interval of
real numbers? Are they always continuous there? What do you think?

Han de Bruijn

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