

Re: Relative Cardinality

Source: <http://sci.tech-archive.net/Archive/sci.math/2005-07/msg00733.html>

- *From:* mueckenh@xxxxxxxxxxxxxxxxxxxxx
 - *Date:* 6 Jul 2005 12:03:17 -0700
-

Randy Poe wrote:

- > mueck...@xxxxxxxxxxxxxxxxxxxxx wrote:
- >> As this would lead to strange results like $\text{Card}(N) =$
- >> $\text{Card}(\{\text{Primes}\})$,
- >
- > Of course, $\text{Card}(N)$ does equal $\text{Card}(\text{Primes})$.
- >
- > Does WM think there is a natural number n such that the
- > n -th prime does not exist?

Yes, it is so. I am not sure, whether sequences like 111...111 with n 1's or like $10^{2n} - 10^n + 1$ do ever cease to supply primes now and then. In principle such numbers with 10^{10000} digits do exist and perhaps could be prime. The prime number 10^{100} does not exist, however, for the simple reason that we cannot count up to that number step by step.

Regards, WM

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- *Follow-Ups:*
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 - ◇ *From:* Virgil
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 - ◇ *From:* Proginoskes
- *References:*
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 - ◇ *From:* mueckenh
 - ◆ ***Re: Relative Cardinality***
 - ◇ *From:* Virgil
 - ◆ ***Re: Relative Cardinality***
 - ◇ *From:* mueckenh
 - ◆ ***Re: Relative Cardinality***

Re: Relative Cardinality

◇ *From:* Dik T. Winter

◆ ***Re: Relative Cardinality***

◇ *From:* mueckenh

◆ ***Re: Relative Cardinality***

◇ *From:* Randy Poe

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