

Re: Peano's space-filling curve

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From: John Morgan (john.morgan_at_REMOVECAPSataraxie.fr)

Date: 06/07/04

Date: Mon, 7 Jun 2004 14:17:58 +0200

David C. Ullrich <ullrich@math.okstate.edu> wrote in message
news:fa16c0dm9nh04mpb4ra1c89q00did2mrd1@4ax.com...

> *On Sat, 5 Jun 2004 19:40:36 +0000 (UTC), Dave Seaman*

> *<dseaman@no.such.host> wrote:*

>

> *>On Sat, 05 Jun 2004 13:53:18 -0500, David C Ullrich*

wrote:

> *>> On Sat, 5 Jun 2004 13:50:34 +0200, "John Morgan"*

> *>><john.morgan@REMOVECAPSataraxie.fr> wrote:*

> >

> *>>> I have a problem applying "onto" for the Peano*

> *>>> construct. If the line passes arbitrarily close to*

> *>>> a point, so that all neighbourhoods of that point*

> *>>> contain point(s) through which the line passes,*

> *>>> does that make it "onto".*

> >

> *>> No. To be onto it has to actually pass through*

> *>> every point. Which it does.*

> >

> *>Actually, since f is continuous, $f([0,1])$ is compact and*

> *> therefore closed. Hence, the fact that $f([0,1])$ is*

dense

> *> in $[0,1]^2$ is a sufficient condition for f to be onto.*

>

> *We all understand that. Well, most of us do – in a context*

> *where one of us is having so much trouble.*

> *understanding simple definitions*

If you mean me, why don't you write "John Morgan". After all, I think I have explained sufficiently often for you to know it by now, that I am not one of you.

Here I read that f is continuous and onto. Elsewhere a poster tells me that f cannot be all three of '1 to 1', continuous and onto. So f is not '1 to 1'? Re-arrange the following words to make a well-known phrase, or saying. "together., Get, act, your,"

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- > *(as evidenced by _repeated_ confusion over how I and I^2*
- > *can have the same cardinality even though space-filling*
- > *curves are not bijections) it seems like pointing this out*
- > *is going to cause more confusion than clarification.*

After reading the post, the response, and the response to the response, I think I can see more clearly than ever why I am experiencing confusion. If the numerous clever people on this group had discussed the problem of explaining Peano to a non-mathy before setting out to do so, they might have saved all of us a lot of time and headaches. I still only have part of the picture, a full three and a half weeks and a certain amount of rancour later

Cheers,

John