

Re: Peano's space-filling curve

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>>So now, assume $f:A \rightarrow B$ is a one-to-one correspondence and so is
>> $f':A' \rightarrow B'$.

>Under the circumstances it probably would be better not
>to corrupt the notation. In the problem we were given
> $A \sim A'$ and $B \sim B'$, not $A \sim B$ and $A' \sim B'$. So it's
> $f: A \rightarrow A'$ and $g: B \rightarrow B'$, and then $F(x,y) = (f(x), g(y))$.

>(I actually think the literally correct $F((x,y))$ would be
>better than the $F(x,y)$ that a person would typically write,
>although it's maybe not clear which is going to cause
>less confusion.)

Good points. Well taken.

>>>[...]So how about $F(x,y)=(f(x),f'(y))$?

>Well, my opinion is that he would have eventually got
>this himself (because once we get straight exactly
>what we know and exactly what we're trying to do
>it's more or less the only thing to try), and if
>he had got it himself he would have attained a
>deeper understanding.

>Otoh you may be right (or rather what I imagine your
>motivation in giving it away may be right) – if this
>is our first time with this sort of abstraction we
>need more than the hints I was giving.

I saw your tactic and gave him some time to think about it a bit. Since it wasn't obvious to him (and it should have been), I thought a nudge would do him good. He still has to show that the new function is a one-to-one correspondence, so there's plenty of chances to learn. :)

Again, point well taken.

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—Dan Grubb