

Re: Dedekind Cuts, Fundamental Sequences: why?

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- *From:* Hatto von Aquitanien <abbot@xxxxxxxxxxxxxxxx>
 - *Date:* Tue, 05 Jun 2007 10:11:11 -0400
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David C. Ullrich wrote:

On Mon, 04 Jun 2007 07:53:56 -0400, Hatto von Aquitanien <abbot@xxxxxxxxxxxxxxxx> wrote:

Dave Seaman wrote:

On Mon, 04 Jun 2007 06:32:31 -0400, Hatto von Aquitanien wrote:

David C. Ullrich wrote:

Every
definition
I
have
consulted
for
supremum
and
infimum
begins
with
the
real
numbers.
So
to
tell
me
that
the
reason

Re: Dedekind Cuts, Fundamental Sequences: why?

we
need
to
extent
the
rational
numbers
to
the
real
numbers
is
so
that
the
domain
of
numbers
has
suprema
and
infima
assumes
the
real
numbers
to
be
defined
already.

Huh?

Definition:
The
ordered
field
 F
is
complete
if
every
nonempty
subset
of
 F
which
is
bounded
above

Re: Dedekind Cuts, Fundamental Sequences: why?

has
a
least
upper
bound.

That is not a
definition of
least upper
bound.

I didn't say it was! It's a
definition of completeness.
You
know the definition of least
upper bound, or I thought
you did.

"Every definition I have consulted for
supremum and infimum begins with
the real numbers."

You couldn't have looked very far. When I googled for "least
upper
bound" the very first hit was the wikipedia entry for
"supremum", which
begins:

In mathematics, given a subset S of a partially ordered set T ,
the supremum of S , if it exists, is the least element of T that
is greater than or equal to each element of S . Consequently,
the
supremum is also referred to as the least upper bound, lub or
LUB. If the supremum exists, it may or may not belong to S .
If
the supremum exists, it is unique.

Stupid me, I just looked in textbooks which I know to be in common use at
universities in the US for courses in real analysis.

You didn't look very far. Those textbooks are full of theorems that
depend on completeness.

Re: Dedekind Cuts, Fundamental Sequences: why?

I did not look for definitions of completeness. That's why I didn't say that I had looked for such a definition.

http://www.dailymotion.com/video/x1ek5w_wtc7-the-smoking-gun-of-911-updated

<http://911research.wtc7.net>

<http://vehme.blogspot.com>

Virtus Tutissima Cassis

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