

Definition of Real Numbers

The goal of the presentation is to discuss different definitions of the real numbers. Your presentation should include at least

- An explanation of what the Cauchy Sequences are.
- An explanation of what Dedekind cuts are.
- A discussion of what it means for the reals to be complete.
- An explanation of how you add two Dedekind cuts.
- An explanation of how you add two Cauchy sequences.

In addition you should include at least one thing not on the above list (for example something about all variants of the Lucas/Fibonacci numbers obtained with different starting values).

At the end of your presentation the class will be asked one of the following questions.

- Which of the following is a definition of the reals: A Dedekind cut, a Cantor knife, a Godel hand grande?
- Which of the following are complete: the Real numbers, the Rational numbers, the Integers?
- Do ALL sequences of real numbers converge?

A good starting point for your research is

http://en.wikipedia.org/wiki/Real_numbers

If you have any questions regarding the presentation feel free to e-mail your TA or Dr. Ackerman