1116-S5-966

Suzanne M. Seager^{*} (suzanne.seager@msvu.ca), Mathematics Department, Mount Saint Vincent University, 166 Bedford Highway, Halifax, NS B3M 2J6, Canada. An Alternative Path Towards Delta-Epsilon Proofs.

For most of my students, Real Analysis I is the first and only analysis course they will ever take (only a few will continue to Real Analysis II and possibly graduate school). Delta-epsilon proofs are initially difficult for everyone, but weaker students are especially overwhelmed. To help I reordered Real Analysis to slowly build up all of the logical and algebraic skills essential to delta-epsilon proofs well before we encounter them. Our motivation is defining the reals, so we start with the axioms for an ordered field. However we don't reach completeness until almost halfway through. We first develop skills at working with inequalities, absolute value, and logic, then move on to sequences and their limits, working on one skill at a time so that the epsilons are manageable. By the time we have defined the reals and reached limits of real-valued functions, the full delta-epsilon definition is easy to handle. I will discuss the details of the path I take through analysis, and techniques I use to help students cope. (Received September 15, 2015)