

Analysis in \mathbb{R}^n
Math 204, Section 30
Winter Quarter 2008
Written Exercises from Weeks 1 and 2

Exercise 0.0.1 Show that the union of a finite number of bounded sets in a metric space is another bounded set.

Exercise 0.0.2 Show that monotonicity is a necessary hypothesis in Dini's Theorem. In other words, find an example of a sequence of real-valued continuous functions (f_n) that converges pointwise to a continuous function f on a compact metric space such that the convergence is not uniform.

Exercise 0.0.3 Salvage Guillaume's proof of Dini's Theorem from class on Thursday, January 17.