
Real Analysis Qualifying Exam Solutions

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NIGEL SANTIAGO

Real Analysis Qualifying Exam

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EXAM SOLUTIONS September 20, 2007 A
passing grade is 6 problems done
completely correctly, or 5 done completely

correctly with substantial progress on 2
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"every open cover of X has a finite
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$f: \mathbb{N} \rightarrow \mathbb{R}$ is a bounded sequence in \mathbb{R} . Assume that every convergent subsequence converges to the same real number.

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Real and Complex Analysis (Math 630-631, 660-661) Note: This exam now only tests the material of Math 630 and Math 660, whereas it used to involve a choice of topics from Math 630-631 and Math 660-661.

Aug 2011; Jan 2003--Jan 2011 (.pdf) Older, miscellaneous Analysis exams

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Exam Information - Master Students. To satisfy exam requirements, students need to obtain a M.S. level pass (prior to the start of their second year) in the Examinations | UCI Mathematics

The Ph.D. qualifying examination in Mathematics is a written examination in two parts. Part 1 covers roughly the material presented in the core course Mth 511, Real Analysis, while Part 2 covers roughly the material in Mth 543, Abstract Linear Algebra. The qualifying exam is given twice each year, around the beginning of Fall term and Spring terms.

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Stephen G. Simpson Friday, May 8, 2009

1. True or false (3 points each). (a) For all sequences of real numbers (s_n) we have

1 in X ...

REAL ANALYSIS QUALIFYING EXAM SOLUTIONS

Chapter 1 Spring 2011

1.1 Real Analysis A1. (a) $f: \mathbb{Z} \rightarrow \mathbb{R}$ is separable. A countable set whose finite linear combinations are dense in $\ell^2(\mathbb{Z})$, where e_n has a 1 in the n th position and is 0 everywhere else. If $x \in \ell^2(\mathbb{Z})$, then the sums $\sum_{k=-N}^N x_k e_k$ approximate x arbitrarily well in the norm as $N \rightarrow \infty$.

since

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PhD Qualifying Exams | Mathematics

Real Analysis I. Qualifying Exam 200T

1) Show that every open set of real numbers is measurable. 2) Show that if f is a measurable function and g is measurable everywhere, then fg is measurable. 3) Let f be a nonnegative integrable function. Show that $\int_a^x f(t) dt$ is continuous (by using the Monotone convergence Theorem).

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