NUMBER THEORY SEMINAR

Introduction to Perfect Numbers

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<u>WHEN</u>: Wed 21 Dec 2011, 11:00 a.m.

<u>WHERE</u>: Chase 319

<u>ABSTRACT</u>:

Perfect numbers are a classic topic in mathematics, predating Euclid. Here we will review fundamental results due to Euclid and Euler, as well as modern efforts focused on the existence or nonexistence of odd perfect numbers. Classic results give necessary and sufficient conditions for an even number to be perfect, and 47 such numbers have been found to date. Much modern work centers around the question: Do odd perfect numbers exist? J. J. Sylvester revitalized and popularized this question with a series of papers in 1888, which showed that an odd perfect number would have to be divisible by at least five distinct primes. Since Sylvester, countless assaults have yielded numerous partial results, but the basic question remains unanswered.

Any questions, please e-mail: rnoble@mathstat.dal.ca.