

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
COLLOQUIUM

Friday, March 25
3:00 – 4:00 PM
Maria Sanford, Room 101

PERFECT NUMBERS

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Abstract: A perfect number is a positive integer whose proper divisors add up to itself. This concept appeared in Euclid's *Elements* and has been studied ever since. Euclid proved in his book that if the number $2^k - 1$ is prime, where k is necessarily prime, then the number $2^{k-1}(2^k - 1)$ is perfect. Centuries later his proof inspired the work of Marin Mersenne and the current search of the so-called Mersenne primes. Euclid's work was continued by Euler, who explored the forms of perfect numbers and discovered new properties about them. Many mathematicians continued the work of Euler, specifically in the search of odd perfect numbers. Even though some 20th century mathematicians like Jacques Touchard and James Sylvester have made significant progress about the form of any odd perfect number, the search for one continues.

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