PITTSBURG STATE UNIVERSITY

DEPARTMENT OF MATHEMATICS

Colloquium

Dr. Gary McGrath

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From Archimedes to Bernoulli, that's A to B.
A formula for $S_p(n) = 1^p + 2^p + ... + n^p$

Abstract

The contribution of Archimedes, Al-Karaji, Ibn Al-Haytham, Pascal, Wallis and Leibniz. Jacob Bernoulli's Ars Conjectandi (1713). The Bernoulli numbers. Euler's use of Bernoulli numbers.

Archemedes, Al-Karaji, and Ibn Al-Haytham, had obtained formulas for p=2, 3, 4. Pascal, Wallis and Leibniz developed methods to derive a formula for any given p. Using calculus, Jacques Bernoulli I solves the general problem. But there was a surprise; the general solution involved the now famous sequence b_p of "Bernoulli numbers".

Tuesday, November 14, 2000
3:00 p.m.
Yates 215

Students are encouraged to attend.
There will be cookies and conversation afterwards in Yates 210