

MANY CHEERFUL FACTS

presents

One Proof Isn't Enough for the Two of Us

a talk by Michael Catlin

12:10 - 1:00pm on Wednesday, April 18, in room 1015.

From any set of $2n - 1$ integers, we can select n whose sum is divisible by n . This simple theorem from additive number theory was proven by Erdos, Ginzburg, and Ziv in 1961 and has a surprising number of applications to algebra, graph theory and combinatorics. I will present three different proofs to give a sense of the different types of problems that have this theorem as their starting point. I may or may not use colored chalk.

*I am the very model of a modern Major General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the fights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse!*

- Gilbert & Sullivan $P \circ P$

The website for Many Cheerful Facts is
<http://www.math.berkeley.edu/~slofstra/mcf>