

University of Delaware
Discrete Mathematics Seminar

Sums of Triangular Numbers

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Abstract

In 1796 Gauss wrote in his mathematical diary the theorem that every natural number is the sum of three triangular numbers. In today's terminology, we say that the sum of three triangular numbers is universal. Later Liouville proved a generalization of Gauss' theorem which determines all ternary sums of triangular numbers that are universal. In this talk, I will describe the recent result by B. Kane which provides a simple characterization of universal sums of triangular numbers and my joint work with B.K. Oh on almost universal sums of triangular numbers.