

A method for characterizing lottery sets

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Abstract

Lotteries are operational across the whole world. Suppose a lottery scheme consists of randomly selecting a winning n -set from a universal m -set, while a player participates in the scheme by purchasing a playing set of any number of n -sets from the universal set prior to the draw, and is awarded a prize if k or more numbers in the winning n -set match those of at least one of the player's n -sets in his/her playing set ($k \leq n \leq m$). In this talk, we study the well-known combinatorial lottery problem (introduced in 1960s) and discuss a computerised characterisation procedure to determine optimal lottery sets of small cardinality. As a conclusion, extentions on further work related to this topic will also be presented.