

Number theory and decomposable combinatorial structures

Karl-Heinz Indlekofer (Paderborn)

Abstract: Many types of combinatorial objects decompose as sets of simpler basic objects diversely known as “primes”, “irreducible” or “connected” components. For instance, a permutation decomposes as a set of cyclic permutations, a polynomial as a (multi)set of irreducible factors, and a graph as a set of connected components. Such situations are combinatorial analogues of the fact in number theory that the natural numbers uniquely decompose as products of primes.

In this talk we describe a proof of direct analogues of the Erdős-Wintner Theorem for assemblies, multisets and selections, especially for additive arithmetical semi-groups.