

Party Problems & Ramsey Numbers

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In a red-blue coloring of a graph G , every edge of G is colored red or blue. For two graphs F and H , the Ramsey number $R(F, H)$ of F and H is the smallest positive integer n such that every red-blue coloring of the complete graph K_n of order n results in either a subgraph isomorphic to F all of whose edges are red or a subgraph isomorphic to H all of whose edges are blue. It is well known that Ramsey numbers have a connection with certain party problems. While the study of Ramsey numbers has been a popular area of research in graph theory, over the years a number of variations of Ramsey numbers have been introduced. We look at some of those introduced more recently and consider questions dealing with related party problems. This is joint work with Z. Bi, G. Chartrand and P. Zhang.