From the authors' abstract: In this paper, we study the generalized Ramsey number $r(G_1, \ldots, G_k)$ where the graphs $G_1, \ldots, G_k$ consist of complete graphs, complete bipartite graphs, paths, and cycles. Our main theorem gives the Ramsey number for the case where $G_2, \ldots, G_k$ are fixed and $G_1 \cong C_n$ or P_n with n sufficiently large. If among $G_2, \ldots, G_k$ there are both complete graphs and odd cycles, the main theorem requires an additional hypothesis concerning the size of the odd cycles relative to their number. If among $G_2, \ldots, G_k$ there are odd cycles but no complete graphs, then no additional hypothesis is necessary and complete results can be expressed in terms of a new type of Ramsey number which is introduced in this paper. For $k = 3$ and $k = 4$ we determine all necessary values of the new Ramsey number and so obtain, in particular, explicit and complete results for the cycle Ramsey numbers $r(C_n, C_l, C_k)$ and $r(C_n, C_l, C_k, C_m)$ when n is large.

<div align="right">*J.E.Graver*</div>

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05C35 Extremal problems (graph theory)