1125-05-135 **Jenny Kaufmann***, Department of Mathematics, Fine Hall, Washington Road, Princeton University, Princeton, NJ 08544-1000, and **Henry Wickus**, Dept. of Mathematics and Computer Science, 2755 Station Avenue, DeSales University, Center Valley, PA 18034. *On Some Edge Folkman Numbers, Large and Small.*

"How large a structure do we need to force a certain substructure to appear in any of its colorings?" This question is the essence of Ramsey theory. Edge Folkman numbers $F_e(G_1, G_2; k)$, a generalization of more commonly studied Ramsey numbers, are defined as the smallest order of any K_k-free graph F such that any red-blue coloring of the edges of F contains either a red G_1 or a blue G_2. We discuss findings on edge Folkman numbers involving graphs $J_s = K_s - e$. We prove the general results $F_e(J_3, K_n; n+1) = 2n-1$, $F_e(J_3, J_n; n) = 2n-1$, and $F_e(J_3, J_n; n+1) = 2n-3$. We also present results on $F_e(J_4; J_4; k)$ for all cases other than $k = 4$, with exact values given for $k > 6$ and bounds given for k equal to 5 or 6. In particular we present the upper bound $F_e(J_4; J_4; 5) \leq 1297$, using computational methods modified from the study of classical Folkman numbers. We also describe our attacks on $F_e(3, 3; 4)$, the smallest unsolved problem in the theory of Folkman numbers and the problem which originally motivated our research. (Received August 03, 2016)