1163-05-61 **Josephine Brooks*** (j.brooks@mail.utoronto.ca), Department of Mathematics, Bahen Centre, 40 St. George Street, University of Toronto, Toronto, M5S 2E4, Canada, **Alvaro Carbonero** (carboa1@unlv.nevada.edu), Department of Mathematical Sciences, University of Nevada, Las Vegas, Box 454020, 4505 S. Maryland Pkwy, Las Vegas, NV 89154-4020, and **Joseph Vargas** (varg0261@fredonia.edu), Mathematical Sciences Department, 223 Fenton Hall, SUNY Fredonia, Fredonia, NY 14063. *Removing Symmetry in Circulant Graphs and Point-Block Incidence Graphs.*

A vertex v in a graph G is *fixed* if it is mapped to itself under every automorphism of G. The fixing number of a graph G is the minimum number of vertices, when fixed, fixes all of the vertices in G. Fixing numbers were introduced by Laison, Gibbons, Erwin, Harary, and Boutin. A *circulant graph* is a graph of n vertices in which the i-th vertex is adjacent to the $(i+j)$th and $(i-j)$th graph vertices for each j in a list L. We determine the fixing number for multiple classes of circulant graphs, showing in many cases the fixing number is 2. However, we show that circulant graphs with *twins*, which are pairs of vertices with the same open neighborhoods, have higher fixing numbers. A *point-block incidence graph* is a bipartite graph $G = (P, B)$ with a set of point vertices $P = \{p_1, p_2, ..., p_r\}$ and a set of blocks $B = \{B_1, B_2, ..., B_s\}$ where $p_i \in P$ is adjacent to $B_j \in B \Leftrightarrow p_i \in B_j$. We show that symmetries in certain block designs cause the fixing number to be as high as $\frac{|V(G)|}{4}$. We also present several infinite families of graphs in which fixing any one vertex in G fixes every vertex in G, thus removing all symmetries from the graph. (Received August 04, 2020)