

1056-05-498

**Stephen G Hartke, Hannah Kolb, Jared Nishikawa and Derrick Stolee\***

(s-dstolee1@math.unl.edu), P.O. Box 880130, Lincoln, NE 68588. *Deletion relations of graphs*. Preliminary report.

For a graph  $G$ , understanding the structure of a vertex-deleted subgraph is useful for several problems in graph theory. Two examples are computing the automorphism group and solving the reconstruction conjecture. This paper raises the question of which (ordered) pairs of groups can be represented as the automorphism groups of a graph and one of its vertex-deleted subgraphs. This, and more surprisingly the analogous question for edge-deleted subgraphs, are answered in the most positive sense using concrete constructions. (Received September 10, 2009)