1086-52-1115   **Jonathan E Beagley*** (`jbeagley@gmu.edu`), Department of Mathematical Sciences, 4400 University Drive, MS 3F2, Fairfax, VA 22030, and **Walter Morris** (`wmorris@gmu.edu`), Department of Mathematical Sciences, 4400 University Drive, MS 3F2, Fairfax, VA 22030. *An Esther Klein Type Coloring Theorem.*

In 1935, Paul Erdős and George Szekeres introduced a problem of planar point sets in general position (no three on a line): find the least integer $N(n)$ such that every planar point set of $N(n)$ points in general position contains n points that are convexly independent (form the vertex set of a convex n-gon). We introduce a related problem on the chromatic number of a graph of Morris, and show it has a finite upper bound. This graph on the copoints of planar point sets can be extended to abstract convex geometries. The cliques of this graph correspond to convexly independent sets, and the chromatic number is related to the order dimension of the lattice of convex sets. (Received September 19, 2012)