1176-52-254 **Leah Wrenn Berman*** (lwberman@alaska.edu), University of Alaska Fairbanks, Department of Mathematics & Statistics, PO Box 756660, Fairbanks, AK 99775-6660, **Gábor Gévay** (gevay@math.u-szeged.hu), Szeged, Hungary, and **Tomaž Pisanski** (pisanski@upr.si), Ljubljana, Slovenia. *Bounds on the existence of* (n_5), (n_6), *and* (n_k) *configurations.*

A geometric (n_k) configuration is a collection of points and straight lines, typically in the Euclidean plane, so that each line passes through k of the points and each of the points lies on k of the lines. In a series of papers, Branko Grünbaum showed that geometric (n_4) configurations exist for all $n \geq 24$, using a series of geometric constructions later called the "Grünbaum Calculus". In this talk, we will show that for each $k > 4$, there exists an integer N_k so that for *all* $n \geq N_k$, there exists at least one (n_k) configuration, by generalizing the Grünbaum Calculus operations to produce more highly incident configurations. We further refine the general bounds in the case where $k = 5$ or $k = 6$, by using additional information about systematic and ad hoc constructions for 5- and 6-configurations, which reduces the bounds significantly. (Received January 24, 2022)