1165-52-159 **Keun Hyong Alex Kwak*** (2021alexkwak@gmail.com). *On the smallest* $(n-1)$*-gon containing a convex* n*-gon.* Preliminary report.

Given a convex polygon P with n vertices and a positive integer $3 \leq m \leq n-1$, let Q be m-vertex polygon, which contains P and has the smallest possible area. This problem is motivated by applications in robotics and computer-aided design. Of particular interest is the maximum value of the ratio between the area of Q and the area of P. It is known that every convex quadrilateral is contained in a triangle of at most twice its area and this result is optimal as the case of the square shows.

We prove that every unit area convex pentagon is contained in a convex quadrilateral of area no greater than $3\sqrt{5}$. We also show that every unit area convex hexagon is contained in a convex pentagon of area no greater than $7/6$. Both results are tight as the case of the regular pentagon (hexagon) shows. (Received January 17, 2021)