University of Colorado
Department of Mathematics
Problem of the Month
December 2011-January 2012

Assume that a convex polyhedron is contained inside a sphere of radius R. Denote its edges by $E_1, \ldots, E_n$. Let L_i be the length of E_i and assume that the faces meet at E_i at the angle γ_i. Show that

$$\sum_{i=1}^{n} L_i(\pi - \gamma_i) \leq 8\pi R.$$