RESEARCH GROUP IN
MATHEMATICAL INEQUALITIES
AND APPLICATIONS

PROBLEM CORNER

Problem 2, (2009)

Jian Liu
East China Jiaotong University
Nanchang City, Jiangxi Province
330013, P.R. China
Email: 9sin9@163.com

Received: 30 November, 2008

Conjecture: Let $A_1A_2\dots A_n$ be a circumscribed polygon with center O. Suppose the vertexes of convex polygon $B_1B_2\cdots B_n$ locate the circles $O(A_i)$ $(i=1,2\dots n.$ $O(A_i)$ denotes the circle with O as center and OA_i as radius) respectively. Show that

$$Perimeter(B_1B_2\dots B_n)\leq Perimeter(A_1A_2\dots A_n).$$

Remark. The author has proved the case $n=3$.