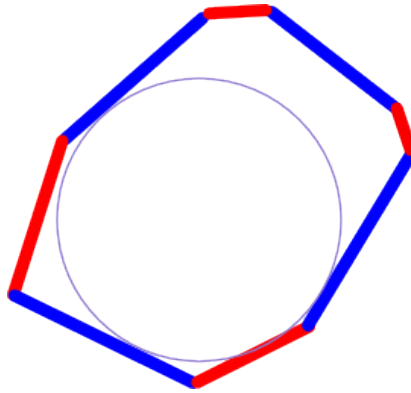# Math Challenge Problem

for late February, 2015

Polygon Coloring

Consider polygons containing an even number of edges. You are going to color every other edge red, and color all the others blue. As you can see in the example above, there is no reason to think that the red edges and the blue edges will have the same total length. But of course, the polygon above does not circumscribe a circle. That is, there is no circle to which every edge of the polygon is tangent.

The Challenge: Prove that if a polygon with an even number of edges circumscribes a circle, then coloring every other edge red and the others blue will result in the red edges having the same total length as the blue edges.

Submit solutions to Ross 2239G or `oscar.levin@unco.edu` by **Friday, February 27**.

The best solution will be announced at the following Math Club (Tuesdays at 4:30) and
WIN A PRIZE!
Prizes include nifty Rubik's style puzzle cubes, math puzzle books, math games, even a
math coloring book. So submit your answer TODAY!