

1128-51-90

Trent A DeGiovanni* (tdegiovanni@zagmail.gonzaga.edu), 803 E Mission Ave, Spokane, WA 99202. *Most Economical Common Dissection of a Square and Equilateral Triangle.*

The Wallace-Bolyai-Gerwien theorem states any polygon can be decomposed into a finite number of polygonal pieces that can be translated and rotated to form any polygon of equal area. The theorem was proved in the early 19th century. The minimum number of pieces necessary to form these common dissections remains an open question. In 1905, Henry Dudley demonstrated a four-piece common dissection between a square and equilateral triangle. We investigate the possible existence of a three-piece common dissection. Specifically we examine possible dissections in which all of the polygonal pieces are convex. (Received February 15, 2017)