

Department of Mathematics and Computer Science

October 30, 2009

Friday, October 30, 4:00

COLLOQUIUM

Speaker: Gregory Galperin

Old Main 2231

Title: “Rational areas in a dissection of a polygon”

Abstract: Let \mathcal{P} be a convex pentagon dissected by its diagonals into 11 pieces, 10 triangles and one inner pentagon. What can one say about the area of the inner pentagon if the areas of all the 10 triangles are rational numbers? Can one claim that the area of the pentagon must also be a rational number or not? What if only some of the 10 triangles have rational areas, can one claim that all of the other pieces must have rational areas, too? If yes, then what is the **smallest** number of such pieces with rational areas that guarantee the rationality of the areas of all the remaining pieces in that dissection?

At his talk, the speaker will solve this problem and its generalization for polygons with more than 5 sides.

SNACKS IN FACULTY LOUNGE AT 3:30 PM.

EVERYONE WELCOME (EVEN IF YOU ARE UNABLE TO ATTEND THE TALK)
