

Problems ♡–4

Due in DSC 235 by 12 noon, Friday, October 06, 2017

Problem A: *Does there exist a subset A of the plane \mathbb{R}^2 such that the orthogonal projection of A on any straight line in the plane has exactly 2017 distinct points ?*

Problem B: *Does there exist a set $B \subseteq \mathbb{R}^2$ which intersects every straight line in exactly 2017 points ?*

RULES:

- The competition is open to all *undergraduate* UNO students.
- Please submit your solutions to Andrzej Roslanowski in DSC 235 or to his mailbox. (Needless to say, they should be written clearly and legibly.)
- The winners will be determined each semester based on the number of correct solutions submitted.
- Problems will be posted by Friday 5pm and the solutions are due by the following Friday 12 noon.

PRIZES:

- Winners will receive books published by the American Mathematical Society. The titles actually awarded will be selected in cooperation with the awardees.
- In Summer 2018, there is a research opportunity possibly that could lead to an Erdős Number (3 or possibly 2). Strong performance in POW is one of the crucial prerequisites.