

Two problems related to integer lattice points in the plane

S. D. Adhikari

May, 2011

Abstract

We shall discuss a couple of problems related to integer lattice points in the plane.

The first one involves finite colourings of integer lattice points in the plane. The question may be said to belong to the subject of Euclidean Ramsey Theory and is related to a conjecture which was suggested by Gurevich which says that for any finite colouring of the Euclidean plane E^2 , there always exists a triangle of unit area with monochromatic vertices.

The second problem is on a question of Erdős regarding visibility of integer lattice points in the plane.

For both the problems, before going into the exact problems involved, we give necessary introductions to those themes. We also mention results related to these problems in the higher dimensions.