BI-CO MATHEMATICS COLLOQUIUM

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"Fair and Square: Cake Cutting in 2D"

Monday, December 5, 2016

Talk at 4:00 – Park 338
Tea at 3:30 – Park 355, Math Lounge

Abstract:

We consider the problem of fairly dividing a two-dimensional good, such as land. We argue that the classic cake-cutting procedures are, for the most part, ill-suited for such settings, as they disregard the geometric structure of the plots, and may allocate 2D plots of little practical use. We thus introduce and study the problem of 2D fair-division wherein the allotted plots must be of some restricted ("usable") two-dimensional geometric shape(s). Adding this geometric constraint re-opens most questions and challenges related to cake-cutting.

In this talk I introduce the 2D fair division problem, review existing results (including examples), and discuss open problems.

No prior knowledge of cake cutting will be assumed.

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