

Michigan Math Club

Thursday at 4pm in the Nesbitt Room

Free Pizza and Pop

Dissections of Squares by Triangles

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Abstract for 13 April

It is easy to see that one can dissect a pizza into n equal slices that are roughly triangular in shape, and are even congruent. A much harder problem is to decide when you can dissect a square into n triangles that have the same area. This is easy if n is even (and they can all be taken to be congruent), but what happens when n is odd? This problem was posed in 1965 and solved by Paul Monsky in 1970. A big surprise was that the both Sperner's lemma and p -adic integers are needed in the argument (and no proof without using the p -adic integers is known, even now). Moral: since you don't know what kind of mathematics you may need to solve a problem in which you are interested, you should learn *everything*.

