

Michigan Math Club

Thursday at 4pm in the Commons

Free Pizza and Pop

Fewest pieces of cake and square tilings

Hyman Bass

Abstract for 23 October

Suppose that s students want to equally share c cakes. What is *the smallest number of cake pieces*, $p(c, s)$, needed to achieve this fair distribution? We will derive a formula for $p(c, s)$ and describe two different distribution schemes that achieve this, the “linear” and the “Euclidean” distributions. The Euclidean distribution corresponds to the “Euclidean square tiling” of a $c \times s$ rectangle R , and we shall see that this square tiling is “isoperimetric” in the sense that it has smallest “perimeter” among all square tilings of R . I will describe a generalized version of this problem that is still open.

