

# Michigan Math Club

Thursday at 4pm in the Commons  
Free Pizza and Pop



## Brouwer's Fixed-Point Theorem

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Abstract for 16 October



One of the most useful theorems in mathematics is an amazing topological result known as the Brouwer Fixed-Point Theorem. Take two sheets of paper, one lying directly above the other. If you crumple the top sheet, and place it on top of the other sheet, then Brouwer's theorem says that there must be at least one point on the top sheet that is directly above the corresponding point on the bottom sheet! More formally the theorem says that a continuous function from an  $N$ -ball into an  $N$ -ball must have a fixed point. We will prove this for  $N=2$ .