# Michigan Math Club

## Thursday at 4pm in the Nesbitt Room
## Free Pizza and Pop

# Reflected rays of light and Kronecker's theorem

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### Abstract for 23 February

Suppose a square has sides made of reflecting mirrors. If you shine a ray of light inside of the square, what path will it cut out? One option is for the ray to travel periodically, say from midpoint to midpoint of sides of the square. Another option is for the ray of light to bounce around and never return to the same point, seemingly coming arbitrarily close to every point inside the square. Is there any other option? We will answer this question, and it will lead us to a famous theorem of Kronecker in the area of Diophantine approximation.