# Michigan Math Club

## Thursday at 4pm in the Commons
## Free Pizza and Pop

# Affine and Projective Geometry

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Abstract for 10 February 2011

What maps from the plane to itself have the property that the image of every straight line is a straight line? The answer turns out to be affine (or "linear" in the calculus sense) bijective maps. But this is not the end of the story. It turns out that if we add "points at infinity" in a suitable sense to the plane, cooler and more general maps called projective maps emerge. I will discuss the basic concepts, sketch proofs, and maybe even talk about an application to a problem I worked on.