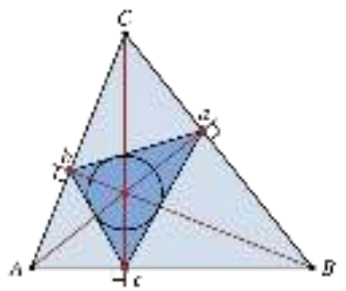
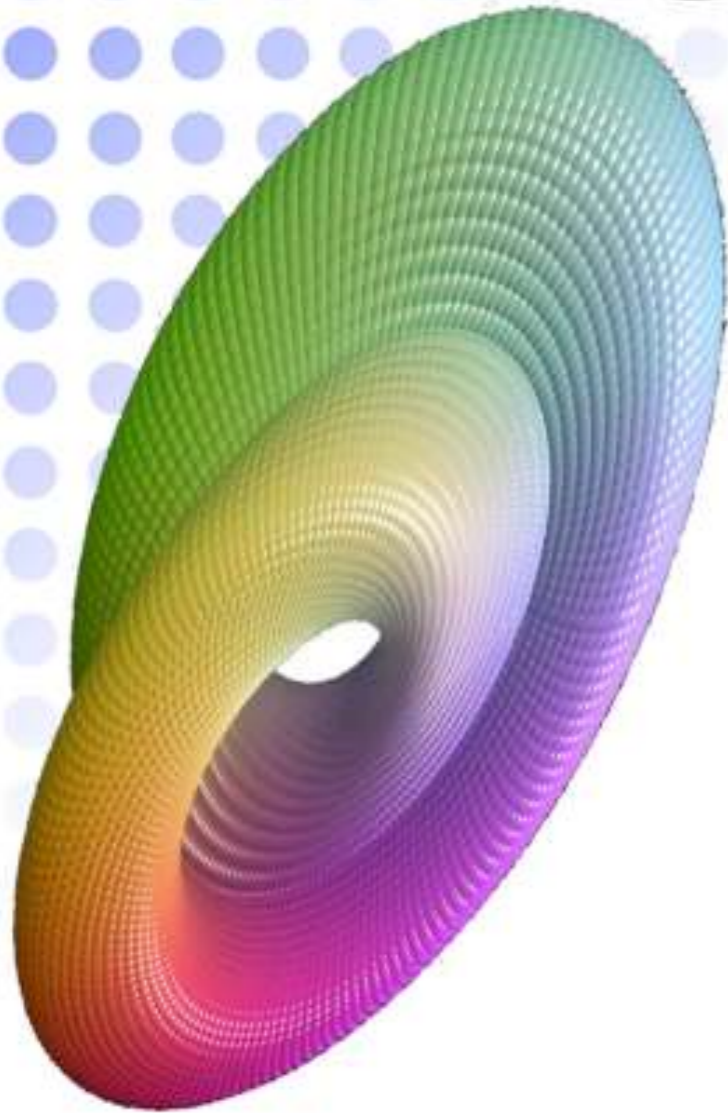


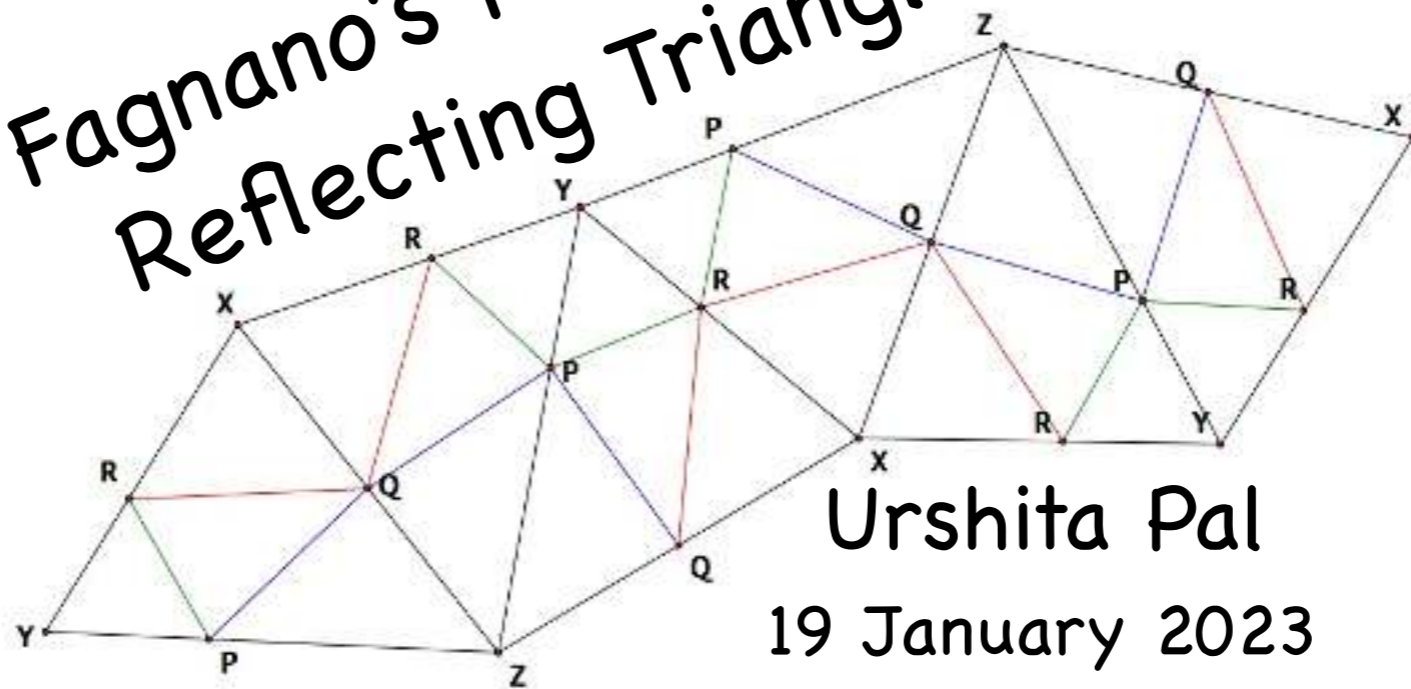
# Michigan Math Club



Thursday at 4pm in EH1360  
Pizza + pop outside afterwards!!



## Fagnano's Problem and Reflecting Triangles



Urshita Pal

19 January 2023

Say we fix a triangle  $ABC$ , and pick points  $X, Y, Z$  on each of its three sides. When is the perimeter of  $XYZ$  minimized? It turns out that this happens exactly when  $X, Y, Z$  are the feet of the three altitudes.

In this talk, we shall explore the wonderful world of reflections and uncover an elegant solution to this problem, which will lead us to explore a recurring idea in studying billiard trajectories.

