Maths Circle Explorations: Session 3

November 26, 2021

2. The object shown on the left in Figure 1 is made of a material that can be stretched, compressed, bent, distorted and molded at will. That is, one can change its shape in any way one pleases. However, one cannot tear the material, or stick two parts ofit together. Convince yourself that it is possible to deform the object on the left in Figure 1 so that it is transformed into the object shown on the right in the same figure. Draw a "movie" (a sequence of stills) that shows this deformation process unfold.

   Make linked rings by joining your index fingers with your thumbs. Observe that what you have demonstrated above is the following: if the human body were elastic enough, it would be possible to move your hands apart without ever separating the joined fingertips.

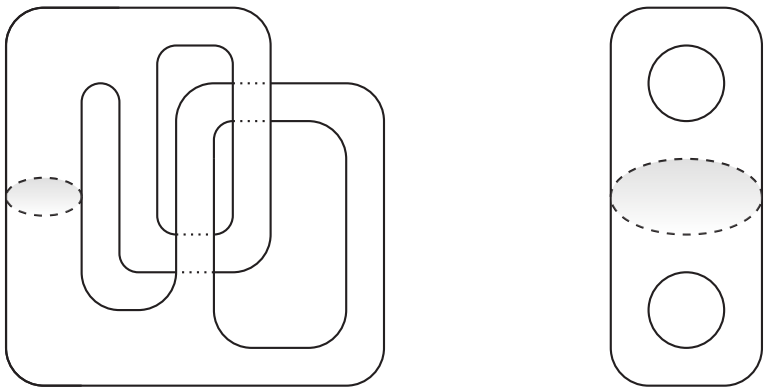

Figure 1: Can the rings be unlinked?