CS39 Class,

I didn't get a chance to give you some explanation and hints for the homework assignment for next week: The construction of a "Cubist Moebius Strip."

The key idea is that one tries to approximate a conceptual shape with some highly restrictive geometry. As an example, the two cubist knot models shown in class were composed exclusively of a select subset of cubic cells in an infinite cubic lattice.

Now you are asked to approximate the mathematical surface of a Moebius band with square tiles that are joined edge-to-edge and each one of them must be parallel to one of the three Euclidean coordinate planes – as in the examples below.

As a relevant example, a "Cubist Cylinder" can be formed with just four squares (Figure 1). Similarly, a "Cubist Sphere" would be formed with only six squares (joined to form a cube).
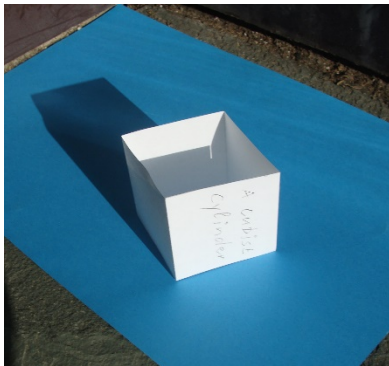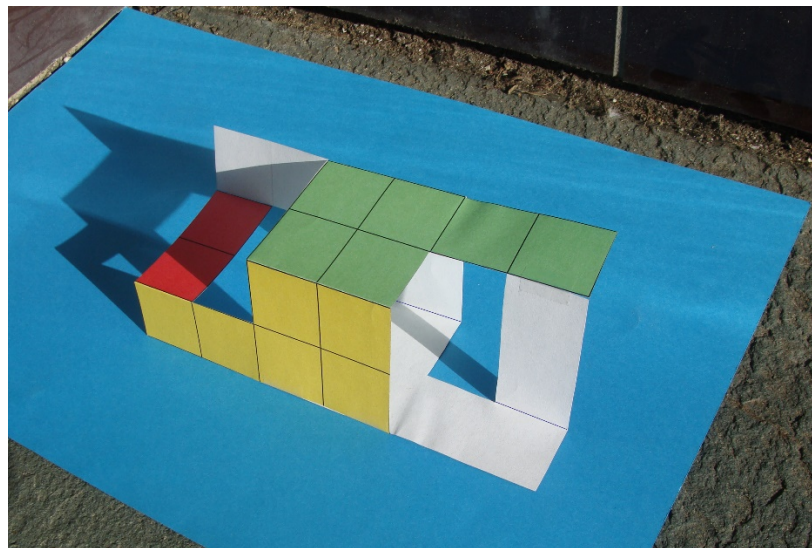

FIGURE 1   FIGURE 2

Figure 2 is a more complex example of a single-sided surface.
It has three mutually perpendicular C2-symmetry axes.
Can you figure out what this surface might be?