

MA110 – Mathematical Explorations – Spring 2014 Original Sliceform

Proposal Due Date: Tuesday, 25 March

Final Construction Due Date: Tuesday, 1 April

We have been working on constructing an original sliceform by V. Ecke and J. Fleron from their paper “Navigating Between the Dimensions” which appeared in a focus issue on Geometry in the National Council of Teachers of Mathematics journal *Mathematics Teacher*¹. Previously, we considered Abbott’s Flatland, talking about cross sections, surfaces, and all sorts of other issues relating to our understanding of how we navigate the different dimensions.

You are to choose a solid object that you want to construct as a Sliceform. You are free to choose just about any object you want. It should be something that is motivated by some interest on your part in terms of its aesthetic properties, its relation to something in your academic studies or personal life, something that is constructed using tools you are interested in, etc. Your object should be unique. I do not want lots of people making the same object – if too many people submit proposals to make similar objects, I reserve the right to disallow these objects.

You are then to construct this object as your own, *original* Sliceform. This is a significant project, which is why we have spent so much time trying to develop your abilities to visualize cross sections. Planning and design will be absolutely critical. You should experiment by actually slicing things, using PlahDoh models, etc. You should also experiment with mock pieces for your Sliceform, seeing how things will come together and what difficulties you might encounter so you can consider them in the design phase.

We will spend some time in class working on these, but we also have other, related, topics that we will be working on.

¹ Fleron, J. and Ecke, V., Navigating Between the Dimensions. *Mathematics Teacher*, Vol. 105, No. 4, November, 2011, Cover, pp. 241, 243, 286-292.