

962-F1-355

Brendan J Foreman* (bjf5@po.cwru.edu), Department of Mathematics, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106-7058. *Mathematics and the Imagination: A course for middle school teachers.*

This is a course for middle school teachers that we developed as part of the NSF Educational Postdoctoral grant at Case Western Reserve University. Inspired by a similar course offered at the Geometry Center a few years back, we designed the course to include topics that were novel yet very substantial in their level of content. We also chose subjects that did not require the specific use of calculus, so that both math majors and non-math majors would find the material new and interesting. The topics covered were geometry, topology, combinatorics, folding numbers, number theory, and cryptography. The approach was very hands-on, and manipulatives such as the Lenart Sphere, Zome Tools, and even office tape, were used extensively. Although this course was created well before the recent draft of the recommendations of the Mathematical Education of Teachers (MET), it fits in well with many of these recommendations. In particular, by studying these subject areas, the teachers helped develop a more comprehensive understanding of the real number system and its operations, better spatial reasoning, and a greater ability to make conjectures and prove or disprove them. (Received September 12, 2000)