1023-E5-257 **Sandra Fillebrown*** (sfillebr@sju.edu), 5400 City Avenue, Dept. Math and CS, Philadelphia, PA 19128, and **Joseph Pizzica**. *Describing Points in Sierpinski-Like Fractals.*

Consider the version of the Sierpinski Triangle that sits with corners at (0,0), (1,0) and (0,1). One standard way to define the set is as the unique Compact Set under the Hausdorf metric of an appropriate Iterated Function System (IFS). Another well-known definition makes use of the binary representation of points in the unit square: only points that can be expressed so that the x and y coordinates do not both have a 1 in the same position of the expansion are in the Sierpinski Triangle. This work looks at extending this latter idea to what we call Sierpinski-Like Fractals: those that are attractors of IFS's consisting only of scaling factors of 1/2, horizontal and/or vertical reflections, rotations that are multiples of 90 degrees, and appropriate translations to keep the fractal in the unit square. The rules that govern which points (x,y) are or are not in the fractal are given in terms of the binary expansions and can be described using the ideas of directed graphs and finite automata. (This work extends, by including rotations, the work described at a similar session at the 2004 Joint Meetings.) (Received August 31, 2006)