1106-A1-1254 Douglas G Burkholder* (burkholderd@lr.edu), Lenoir-Rhyne University, Hickory, NC 28601. Completing SET: Using the card game SET to demonstrate how to extend finite affine geometry to finite projective geometry.
The card game SET is useful for helping students understand points, lines, planes, and hyperplanes in a finite geometry setting. Here we show a simple accessible method for extending this to projective geometry by adding 40 additional cards to the deck. Although these new cards represent points at infinity, the new modified game can be played without treating these new cards as special. Any two cards in the Complete SET uniquely define a line with four cards/points. Any three non-collinear cards uniquely defines a projective plane with 13 cards and 13 lines with any pair of lines intersecting at a point. Any four non-coplanar cards define a hyperplane with 40 cards and 40 planes with each pair of planes intersecting at a line. In the Complete SET, any pair of distinct planes intersect at either a single point or a single line. The author will include sample activities for using Complete SET in the classroom. (Received September 11, 2014)

