David A Nash* (nashd@lemoyne.edu), Le Moyne College, Department of Mathematics, Syracuse, NY 13214, and Jonathan Needleman (needlejs@lemoyne.edu), Le Moyne College, Department of Mathematics, Syracuse, NY 13214. When are finite projective planes magic?

This research studies a generalization of magic squares to finite projective planes. In traditional magic squares the entries come from the natural numbers. This does not work for finite projective planes, so we instead use Abelian groups. For each finite projective plane we demonstrate a small group over which the plane can labeled magically. In the prime order case we classify all groups over which the projective plane can be made magic. (Received September 21, 2015)