

1135-F1-2182

Mary D Shepherd* (msheprd@nwmissouri.edu). *Two-color wallpaper groups in quarter-circle quilting patterns.*

The quilting tile commonly called Drunkard's Path quilt block is a simple square with a quarter circle in a contrasting color in one corner. The radius of the quarter circle is usually slightly larger than half the side length. The quarter circle can appear in any of the 4 corners, and the contrasting colors can be reversed. This gives 8 possible quilt blocks. These can be viewed as representing the group of order 8 $\mathbb{Z}_4 \times \mathbb{Z}_2$. Frequently 4 quilt blocks are arranged in a 2 by 2 square and then four of these 2 by 2 squares are put together with some type of symmetry, rotational, reflection or color balance, to create a 4 by 4 block that is used to tile the quilt top. The complexity of the two-color wall-paper patterns that emerge create some beautiful patterns, not all of which appear to have been created into actual quilt tops. This presentation will describe many of the amazing patterns that emerge from this bottom-up construction. (Received September 25, 2017)