

1135-F1-1144 **Sara Jensen*** (sjensen1@carthage.edu), 2001 Alford Park Dr., Kenosha, WI 53140. *How Many Different Patterned Stockings Can You Knit?* Preliminary report.

Fair Isle knitting is a type of knitting using two colors at a time to create patterns. When knitting a Fair Isle Christmas stocking, I began wondering just how many different Fair Isle patterns were possible given n stitches. Although an innocent enough question to ask, the solution to this problem was anything but straightforward. The journey to a solution involved programming, some Abstract Algebra, and a surprise appearance by the partition function. (Received September 19, 2017)