This project explores the *p*-colorability of a particular family of braids, containing three strands and three crossings, up to their *n*th repetitions. This was accomplished by creating a matrix representation of the braid, found by relabeling the strands according to crossings. Once the matrix was established, it was solved for powers of *n*. The matrices, and therefore braids, were found to have one of three solutions. Each braid was *p*-colorable according to one of the following:

- *P*-colorable if and only if 4|*n.*
- *P*-colorable if and only if *p*|*n.*
- *P*-colorable if and only if *p* divides d_n, where d_n is the greatest common divisor of two sequences derived from the matrix, and always for *p=3* if *n* was even.

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