

ABSTRACT:

This paper will provide several results for the reducibility of second order differential operators. More specifically, we will discuss second order operators that factor into two first order operators with either; one constant coefficient and one rational function coefficient, two polynomial coefficients, or two rational function coefficients with regular singularities. Furthermore, we will only consider operators with one or two regular singularities when considering rational function coefficients. The discussion will provide tests for reducibility of the operators as well.