

1096-VO-2286 **Ken McMurdy*** (kmcurdy@ramapo.edu). *Applying a Galois Transformation to the Roots of a Polynomial.*

Suppose $p(x)$ is a polynomial with coefficients in some field K . It is easy to apply a few very basic transformations to the roots of $p(x)$ (without finding the roots first). For example, we may add the constant $c \in K$ to each root by computing $p(x - c)$, and we may reciprocate the roots (if nonzero) by computing $x^n p(1/x)$ where n is the degree. But what if the transformation is a more general rational function? In this talk we will define a class of “Galois transformations,” and present a method for applying such transformations to the roots of a polynomial. One family of examples arises from the multiplication by m map on an elliptic curve, and we will conclude with an application of the result in this case. (Received September 17, 2013)