

1135-VQ-1897 **Joshua Boone*** (joshua.boone@lmunet.edu). *Powers of Arbitrary 2×2 and 3×3 Matrices*. Preliminary report.

For integers $n \geq 2$, a formula is given for A^n , where A is an arbitrary 2×2 matrix. A similar formula is presented for the 3×3 case. Each formula utilizes the complete homogeneous symmetric polynomial evaluated at the eigenvalues of A . Motivation for formulas of this type is given, as well as some corollaries. Examples and work toward the 4×4 case will be discussed as well, time permitting. (Received September 25, 2017)