

SIO 239 2008 Homework #2 (Second Half)

[1] Terming the two-parameter solutions from the last assignment \mathbf{A}_2 and \mathbf{A}_3 for the square and cube roots of the 2×2 identity matrix respectively, determine values for $\exp \mathbf{A}_2$ and $\exp \mathbf{A}_3$ as general functions of the parameters c and d . Please give exact expressions for the coefficients that arise.

[2] Determine all possible 2×2 normal matrices.

[3] Prove that all anti-symmetric matrices are normal.