

Problem of the Week-2: An Invertible Matrix

Let A be an $n \times n$ matrix over \mathbb{R} such that $A^n = \alpha A$ for some $\alpha \in \mathbb{R}$, $\alpha \neq 1, -1$. Prove that the matrix $A + I_n$ is invertible.

Posting Date 1/27/09. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 2/06/09.