

Math 3280 Worksheet 29

Group members (1 to 4): _____

- (1) Compute the eigenvectors and eigenvalues of the matrix

$$A = \begin{pmatrix} -1 & 0 & 0 \\ -3 & -1 & 3 \\ -3 & 0 & 2 \end{pmatrix}$$

- (2) Compute the inverse P^{-1} of the matrix $P = (v_1|v_2|v_3)$ where the v_i are linearly independent eigenvectors of A .

- (3) Use the fact that $A^n = PD^nP^{-1}$, where D is a diagonal matrix, to compute A^{10} .