

Eigenvalues and Eigenvectors

- 1) Each group will be assigned one of the following matrices. Find the eigenvalues and (un-normalized) eigenvectors of your matrix. When you are finished, write your solutions on the board.

$$A_1 \doteq \begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix} \quad A_2 \doteq \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix} \quad A_3 \doteq \begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix} \quad A_4 \doteq \begin{pmatrix} a & 0 \\ 0 & d \end{pmatrix}$$

$$A_5 \doteq \begin{pmatrix} -1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \quad A_6 \doteq \begin{pmatrix} -1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$