Congratulations! You passed!

TO PASS 80% or higher

Keep Learning

GRADE
90%

Characteristic polynomials, eigenvalues and eigenvectors

TOTAL POINTS 10

1. Given a matrix $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$, recall that one can calculate its eigenvalues by solving the characteristic polynomial $\lambda^2 - (a+d)\lambda + (ad - bc) = 0$. In this quiz, you will practice calculating and solving the characteristic polynomial to find the eigenvalues of simple matrices.

1 / 1 point

For the matrix $A = \begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix}$, what is the characteristic polynomial, and the solutions to the characteristic polynomial?

- $\lambda^2 + 3\lambda + 2 = 0$

  $\lambda_1 = -1, \lambda_2 = -2$

- $\lambda^2 - 3\lambda - 2 = 0$