Congratulations! You passed!

TO PASS 80% or higher

Keep Learning

GRADE
100%

Diagonalisation and applications

TOTAL POINTS 7

1. In this quiz you will diagonalise some matrices and apply this to simplify calculations. **1 / 1 point**

Given the matrix $T = \begin{bmatrix} 6 & -1 \\ 2 & 3 \end{bmatrix}$ and change of basis matrix $C = \begin{bmatrix} 1 & 1 \\ 1 & 2 \end{bmatrix}$ (whose columns are eigenvectors of T), calculate the diagonal matrix $D = C^{-1}TC$.

- (●) $\begin{bmatrix} 5 & 0 \\ 0 & 4 \end{bmatrix}$
- ( ) $\begin{bmatrix} 6 & 0 \\ 0 & 3 \end{bmatrix}$
- ( ) $\begin{bmatrix} 9 & 0 \\ 0 & 20 \end{bmatrix}$
- ( ) $\begin{bmatrix} 3 & 0 \end{bmatrix}$