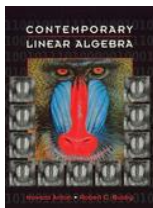


Chapter 4 , Section 4 of *Contemporary Linear Algebra* by Anton and Busby



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1. If  $(-1, 0, 4, 2)$  is a  $\lambda$ -eigenvector of

$$\begin{pmatrix} 2 & 4 & 0 & 1 \\ 0 & 1 & 1 & -2 \\ -4 & 0 & -1 & 0 \\ 2 & 2 & 0 & 1 \end{pmatrix}$$

then  $\lambda$  is

- A  $-2$
- B  $-1$
- C  $0$
- D  $1$
- E  $2$

Next Question

2. Find the eigenvalues of

$$A = \begin{pmatrix} -1 & 1 & 1 \\ 0 & -3 & -4 \\ 6 & 3 & 4 \end{pmatrix}$$

- ▶ A 1, 2, 3
- ▶ B -2, -1, 3
- ▶ C -3, -1, 3
- ▶ D -3, 1, 2
- ▶ E -3, -2, -1

Next Question

3. Find a 2-eigenvector of

$$A = \begin{pmatrix} 2 & -1 & -1 \\ 0 & 1 & -1 \\ 8 & -3 & 3 \end{pmatrix}$$

- ▶ A (1, 2, 2)
- ▶ B (1, 0, 0)
- ▶ C (0, 1, -1)
- ▶ D (1, 2, -2)
- ▶ E (-1, 2, -2)

Next Question

4. If

$$A = \begin{pmatrix} -3 & 2 & 1 \\ 0 & 1 & 4 \\ 0 & 0 & -1 \end{pmatrix} \quad \text{and} \quad A^5 = \begin{pmatrix} k & 122 & -119 \\ 0 & 1 & 4 \\ 0 & 0 & -1 \end{pmatrix}$$

then  $k$  is

- A -243
- B -3
- C -81
- D 3
- E 243

Next Question

5. Find the characteristic polynomial of

$$\begin{pmatrix} 2 & 0 & 0 & 0 \\ 5 & -1 & 0 & 0 \\ 12 & 1 & 2 & 0 \\ 3 & -1 & 9 & 3 \end{pmatrix}$$

- A  $(\lambda + 1)(\lambda - 2)(\lambda - 3)$
- B  $(\lambda + 1)(\lambda - 2)^2(\lambda - 3)$
- C  $(\lambda - 1)(\lambda + 2)^2(\lambda + 3)$
- D  $(\lambda - 1)(\lambda + 2)(\lambda + 3)$
- E  $\lambda^4 + 6\lambda - 12$

No more questions



RIGHT!

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Wrong...try again

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