¡Felicitaciones! ¡Aprobaste!

Calificación recibida 100 % Para Aprobar 100 % o más

Ir al siguiente elemento

1. Which of the following is the elementary matrix that multiplies the second row of a four-by-four matrix by 2 and adds the result to the third row? 1 / 1 punto

- $\begin{pmatrix} 1 & 0 & 0 & 0 \\ 2 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$
- $\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 2 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$
- (selected) $\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 2 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$
- $\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 2 & 0 & 0 & 1 \end{pmatrix}$

Correcto

2. Which of the following is the LU decomposition of $\begin{pmatrix} 3 & -7 & -2 \\ -3 & 5 & 1 \\ 6 & -4 & 0 \end{pmatrix}$? 1 / 1 punto

- $\begin{pmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ 2 & -5 & 1/2 \end{pmatrix} \begin{pmatrix} 3 & -7 & -2 \\ 0 & -2 & -1 \\ 0 & 0 & -2 \end{pmatrix}$
- (selected) $\begin{pmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ 2 & -5 & 1 \end{pmatrix} \begin{pmatrix} 3 & -7 & -2 \\ 0 & -2 & -1 \\ 0 & 0 & -1 \end{pmatrix}$
- $\begin{pmatrix} 1 & 0 & 0 \\ -1 & 2 & -1 \\ 2 & -10 & 6 \end{pmatrix} \begin{pmatrix} 3 & -7 & -2 \\ 0 & -1 & -1 \\ 0 & 0 & -1 \end{pmatrix}$
- $\begin{pmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ 4 & -5 & 1 \end{pmatrix} \begin{pmatrix} 3 & -7 & -2 \\ 0 & -2 & -1 \\ -6 & 14 & 3 \end{pmatrix}$

Correcto

3. Suppose $\mathrm{L} = \begin{pmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ 2 & -5 & 1 \end{pmatrix}, \mathrm{U} = \begin{pmatrix} 3 & -7 & -2 \\ 0 & -2 & -1 \\ 0 & 0 & -1 \end{pmatrix}$, and $\mathrm{b} = \begin{pmatrix} 1 \\ -1 \\ 1 \end{pmatrix}$. Solve $\mathrm{LUx} = \mathrm{b}$ by letting $\mathrm{y} = \mathrm{Ux}$. The solutions for y and x are 1 / 1 punto

- $\mathrm{y} = \begin{pmatrix} -1 \\ 0 \\ 1 \end{pmatrix}, \mathrm{x} = \begin{pmatrix} 1/6 \\ 1/2 \\ -1 \end{pmatrix}$
- (selected) $\mathrm{y} = \begin{pmatrix} 1 \\ 0 \\ -1 \end{pmatrix}, \mathrm{x} = \begin{pmatrix} -1/6 \\ -1/2 \\ 1 \end{pmatrix}$
- $\mathrm{y} = \begin{pmatrix} 1 \\ 0 \\ -1 \end{pmatrix}, \mathrm{x} = \begin{pmatrix} 1/6 \\ -1/2 \\ 1 \end{pmatrix}$
- $\mathrm{y} = \begin{pmatrix} -1 \\ 0 \\ 1 \end{pmatrix}, \mathrm{x} = \begin{pmatrix} -1/6 \\ 1/2 \\ 1 \end{pmatrix}$

Correcto