¡Felicitaciones! ¡Aprobaste!

Calificación recibida 100 % **Para Aprobar** 100 % o más

Ir al siguiente elemento

1. In the fourth step of the Gram-Schmidt process, the vector

1 / 1 punto

$$u_4 = v_4 - \frac{(u_1^T v_4)u_1}{u_1^T u_1} - \frac{(u_2^T v_4)u_2}{u_2^T u_2} - \frac{(u_3^T v_4)u_3}{u_3^T u_3}$$

is always orthogonal to

- (●) v_1
- ( ) v_2
- ( ) v_3
- ( ) v_4

Correcto

This is because $u_1 = v_1$.

2. The Gram-Schmidt process applied to

1 / 1 punto

$$\{v_1, v_2\} = \left\{ \begin{pmatrix} 1 \\ 1 \end{pmatrix}, \begin{pmatrix} 1 \\ -1 \end{pmatrix} \right\}$$

results in

- (●) $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ 1 \end{pmatrix}, \frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ -1 \end{pmatrix} \right\}$
- ( ) $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ 1 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \end{pmatrix} \right\}$
- ( ) $\{\hat{u}_1, \hat{u}_2\} = \left\{ \begin{pmatrix} 1 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \end{pmatrix} \right\}$
- ( ) $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{3}} \begin{pmatrix} 1 \\ 2 \end{pmatrix}, \frac{1}{\sqrt{3}} \begin{pmatrix} 2 \\ -1 \end{pmatrix} \right\}$

Correcto

3. The Gram-Schmidt process applied to

1 / 1 punto

$$\{v_1, v_2\} = \left\{ \begin{pmatrix} 1 \\ 1 \\ -1 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \\ -1 \end{pmatrix} \right\}$$

results in

- ○ $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{3}} \begin{pmatrix} 1 \\ 1 \\ -1 \end{pmatrix}, \frac{1}{\sqrt{2}} \begin{pmatrix} 0 \\ 1 \\ 1 \end{pmatrix} \right\}$
- ◉ $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{3}} \begin{pmatrix} 1 \\ 1 \\ -1 \end{pmatrix}, \frac{1}{\sqrt{6}} \begin{pmatrix} -2 \\ 1 \\ -1 \end{pmatrix} \right\}$
- ○ $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{3}} \begin{pmatrix} 1 \\ 1 \\ -1 \end{pmatrix}, \frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ -1 \\ 0 \end{pmatrix} \right\}$
- ○ $\{\hat{u}_1, \hat{u}_2\} = \left\{ \frac{1}{\sqrt{3}} \begin{pmatrix} 1 \\ 1 \\ -1 \end{pmatrix}, \frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ 0 \\ 1 \end{pmatrix} \right\}$

✓ **Correcto**