

$$B_1 = \{ (1, 1, -1)^T, (3, -2, 0)^T, (2, -1, 1)^T \}$$

$$B_2 = \{ (8, -4, 1)^T, (-8, 5, 2)^T, (3, -2, 1)^T \}$$

$$[(1, 1, -1)^T]_{B_1} =$$

$$[(3, -2, 0)^T]_{B_1} =$$

$$[(2, -1, 1)^T]_{B_1} =$$

B_1

B_2

$$\left(\begin{array}{ccc|ccc} 8 & -8 & 3 & 1 & 3 & 2 \\ -4 & 5 & -2 & 1 & -2 & -1 \\ 1 & -2 & 1 & -1 & 0 & 1 \end{array} \right) \xrightarrow[\substack{\text{III} \\ \text{I}+2\text{II} \\ \text{V}}]{\substack{\text{II} \leftrightarrow \text{III} \\ \text{II} \leftrightarrow \text{I}}} \left(\begin{array}{ccc|ccc} 1 & -2 & 1 & -1 & 0 & 1 \\ 0 & 2 & -1 & 3 & -1 & 0 \\ 0 & -3 & 2 & -3 & -2 & 3 \end{array} \right)$$

$$\sim \left(\begin{array}{ccc|ccc} 1 & 0 & 0 & 2 & -1 & 1 \\ 0 & 2 & -1 & 3 & -1 & 0 \\ 0 & -3 & 2 & -3 & -2 & 3 \end{array} \right) \sim \left(\begin{array}{ccc|ccc} 1 & 0 & 0 & 2 & -1 & 1 \\ 0 & -1 & 1 & 0 & -3 & 3 \\ 0 & -3 & 2 & -3 & -2 & 3 \end{array} \right) \sim$$

$$\sim \left(\begin{array}{ccc|ccc} 1 & 0 & 0 & 2 & -1 & 1 \\ 0 & -1 & 1 & 0 & -3 & 3 \\ 0 & 0 & -1 & -3 & 7 & -6 \end{array} \right) \sim \left(\begin{array}{ccc|ccc} 1 & 0 & 0 & 2 & -1 & 1 \\ 0 & 1 & 0 & 3 & -4 & 3 \\ 0 & 0 & 1 & 3 & -7 & 6 \end{array} \right)$$

$$B_1[id]_{B_2} = \begin{pmatrix} 2 & -1 & 1 \\ 3 & -4 & 3 \\ 3 & -7 & 6 \end{pmatrix}$$

Wähle Vektor $z := (4, -1, -1)^T$

Vime $[z]_{B_2} = (1, 1, 0)^T$

Pak $[z]_{B_1} = B_1[id]_{B_2} \cdot [z]_{B_2}$