

① zad.

$$(e) = \{ (1, 0, 0), (0, 1, 0), (0, 0, 1) \}$$

$$(f) = \{ (1, 0), (0, 1) \}$$

$$[F]_{(f, e)} = \begin{bmatrix} 2 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$$

$$[G]_{(f, e)} = \begin{bmatrix} 0 & 2 & 0 \\ 1 & 0 & 0 \end{bmatrix}$$

$$[H]_{(f, e)} = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 0 \end{bmatrix}$$

$\{F, G, H\}$ lin. nez. \Leftrightarrow

$\{[F]_{(f, e)}, [G]_{(f, e)}, [H]_{(f, e)}\}$ lin. nez.

$$\alpha \cdot \begin{bmatrix} 2 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix} + \beta \begin{bmatrix} 0 & 2 & 0 \\ 1 & 0 & 0 \end{bmatrix} + \gamma \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 0 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$$

$$\left. \begin{array}{l} 2\alpha + \gamma = 0 \quad 2\beta + \gamma = 0 \quad \alpha + \gamma = 0 \\ \alpha + \beta + \gamma = 0 \quad \alpha + \gamma = 0 \end{array} \right\} \Rightarrow \alpha = \beta = \gamma = 0$$