5.4.26

$$M_1 = \left[\underline{e}\begin{pmatrix}1\\0\\1\\0\end{pmatrix}, \underline{e}\begin{pmatrix}0\\1\\1\\1\end{pmatrix} \right], \quad M_2 = \left[\underline{e}\begin{pmatrix}4\\-5\\-1\\-5\end{pmatrix}, \underline{e}\begin{pmatrix}-3\\2\\-1\\2\end{pmatrix} \right]$$

Visa $M_1 = M_2$

$\dim M_1 = \dim M_2 = 2.$

$$\begin{pmatrix}1&0\\0&1\\1&1\\0&1\end{pmatrix}\begin{matrix}x_1\\x_2\\x_3\\x_4\end{matrix} \Rightarrow \begin{pmatrix}1&0\\0&1\\0&1\\0&1\end{pmatrix}\begin{matrix}x_1\\x_2\\-x_1+x_3\\x_4\end{matrix}$$

$$\Leftrightarrow \begin{pmatrix}1&0\\0&1\\0&0\\0&0\end{pmatrix}\begin{matrix}x_1\\x_2\\-x_1+x_3-x_2\\x_4-x_2\end{matrix}$$

M_1 är lösn. till

$$\Leftrightarrow \begin{cases} x_1+x_2-x_3 = 0 \\ x_2 - x_4 = 0 \end{cases}$$

Testa basv. i M_2:

$$\begin{cases} 4-5+1 = 0 \\ -5+5 = 0 \end{cases} \text{ ok}$$

$$\begin{cases} -3+2+1 = 0 \\ 2-2 = 0 \end{cases} \text{ ok}$$

Så $M_2 \subseteq M_1$, $\Rightarrow M_2 = M_1$ ty samma dim.