7.2.3 $\quad F: \mathbb{L} \to \mathbb{M}$ linjär

$\underline{e} = (\bar{e}_1 \ \bar{e}_2)$ bas för $\mathbb{L}$

$\underline{f} = (\bar{f}_1 \ \bar{f}_2 \ \bar{f}_3)$ bas för $\mathbb{M}$

Antag $\quad F(\bar{e}_1) = \underline{f}\begin{pmatrix}1\\2\\3\end{pmatrix}, \quad F(\bar{e}_2) = \underline{f}\begin{pmatrix}0\\-2\\1\end{pmatrix}$

Ber. $\quad F(\bar{u}), \ F(\bar{v})$ där $\quad \bar{u} = \underline{e}\begin{pmatrix}3\\1\end{pmatrix}$

$\bar{v} = \underline{e}\begin{pmatrix}1\\1\end{pmatrix}$

$$F(\bar{x}) = F\left(\underline{e}\begin{pmatrix}x_1\\x_2\end{pmatrix}\right) = \underline{f}\begin{pmatrix}1 & 0\\2 & -2\\3 & 1\end{pmatrix}\begin{pmatrix}x_1\\x_2\end{pmatrix}$$

$$F(\bar{u}) = \underline{f}\begin{pmatrix}1 & 0\\2 & -2\\3 & 1\end{pmatrix}\begin{pmatrix}3\\1\end{pmatrix} = \underline{f}\begin{pmatrix}3\\4\\10\end{pmatrix}$$

$$F(\bar{v}) = \underline{f}\begin{pmatrix}1 & 0\\2 & -2\\3 & 1\end{pmatrix}\begin{pmatrix}1\\1\end{pmatrix} = \underline{f}\begin{pmatrix}1\\0\\4\end{pmatrix}$$