

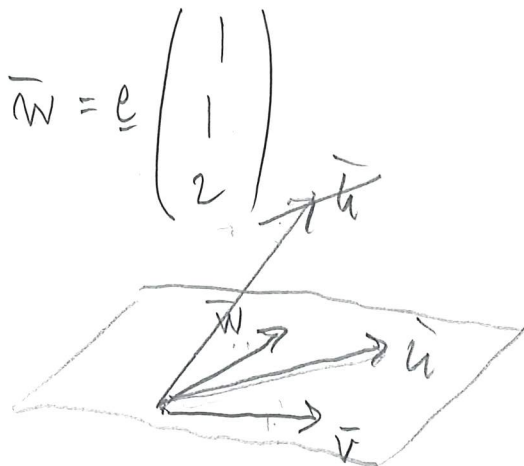
2.3.8 b) skriv $\bar{u} = \underline{e} \begin{pmatrix} 2 \\ -7 \\ 1 \end{pmatrix}$ som en

linjärkombination av

$$\bar{v} = \underline{e} \begin{pmatrix} 2 \\ -1 \\ 3 \end{pmatrix} \text{ och } \bar{w} = \underline{e} \begin{pmatrix} 1 \\ 1 \\ 2 \end{pmatrix}$$

$$x_1 \bar{v} + x_2 \bar{w} = \bar{u}$$

$$x_1 \begin{pmatrix} 2 \\ -1 \\ 3 \end{pmatrix} + x_2 \begin{pmatrix} 1 \\ 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 2 \\ -7 \\ 1 \end{pmatrix}$$



$$\begin{array}{l} (-3) \downarrow \\ \downarrow (2) \\ (2) \end{array} \left\{ \begin{array}{l} 2x_1 + x_2 = 2 \\ -x_1 + x_2 = -7 \\ 3x_1 + 2x_2 = 1 \end{array} \right. \Leftrightarrow \left\{ \begin{array}{l} 2x_1 + x_2 = 2 \\ 3x_2 = -12 \\ x_2 = -4 \end{array} \right.$$

$$\Leftrightarrow \begin{cases} x_1 = 3 \\ x_2 = -4 \\ x_2 = -4 \end{cases}$$

$$\underline{\bar{u}} = 3 \underline{\bar{v}} + (-4) \underline{\bar{w}}$$

$$\bar{u} = 3\bar{v} - 4\bar{w}$$

$$\begin{pmatrix} 2 \\ -7 \\ 1 \end{pmatrix} = 3 \begin{pmatrix} 2 \\ -1 \\ 3 \end{pmatrix} - 4 \begin{pmatrix} 1 \\ 1 \\ 2 \end{pmatrix}$$