

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 2 & -6 & 6 & 4 \\ -3 & 5 & -1 & -2 \end{array} \right] \xrightarrow{\begin{matrix} R_2 - 2R_1 \\ R_3 + 3R_1 \end{matrix}} \left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & -2 & 4 & 2 \\ 0 & -1 & 2 & 1 \end{array} \right]$$

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & -2 & 4 & 2 \\ 0 & -1 & 2 & 1 \end{array} \right] \xrightarrow{\begin{matrix} R_2 - (-\frac{1}{2})R_3 \\ R_3 \end{matrix}} \left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{array} \right]$$

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & 1 & -2 & -1 \\ 0 & 0 & 0 & 0 \end{array} \right]$$

entydig lösning finns ej.

$$\left[\begin{array}{ccc|c} 1 & -2 & 1 & 1 \\ 0 & 1 & -2 & -1 \\ 0 & 0 & 1 & t \end{array} \right] \xrightarrow{\begin{matrix} R_1 - R_2 \\ R_2 - R_3 \\ R_3 \end{matrix}} \left[\begin{array}{ccc|c} 1 & -1 & 0 & 1-t \\ 0 & 0 & -1 & -1 \\ 0 & 0 & 1 & t \end{array} \right] \quad \text{låt } z=t$$

$$\left[\begin{array}{ccc|c} 1 & -2 & 0 & 1-t \\ 0 & 1 & 0 & 2t-1 \\ 0 & 0 & 1 & t \end{array} \right] \xrightarrow{R_1 + 2R_2} \left[\begin{array}{ccc|c} 1 & 0 & 0 & 3t-1 \\ 0 & 1 & 0 & 2t-1 \\ 0 & 0 & 1 & t \end{array} \right]$$

$$1-t+2(2t-1) = 1-t+4t-2 = 3t-1$$

$$\Rightarrow \begin{cases} x = 3t-1 \\ y = 2t-1, \quad t \in \mathbb{R} \\ z = t \end{cases}$$