

$$x_1 - x_2 = 430 - 380$$

$$x_1 + x_4 = 420 + 950$$

$$x_2 - x_3 = -590 + 420$$

$$x_3 = 350$$

$$\begin{array}{ccccc} 1 & -1 & 0 & 0 & 50 \\ 1 & 0 & 0 & 1 & 870 \\ 0 & 1 & -1 & 0 & -120 \\ 0 & 0 & 1 & 0 & 350 \end{array} \quad L_1 - L_2$$

$$\begin{array}{ccccc} 1 & 0 & 0 & 1 & 870 \\ 0 & 1 & -1 & 0 & -120 \\ 0 & -1 & 0 & -1 & -820 \\ 0 & 0 & 1 & 0 & 350 \end{array} \quad L_3 + L_2$$

$$\begin{array}{ccccc} 1 & 0 & 0 & 1 & 870 \\ 0 & 1 & -1 & 0 & -120 \\ 0 & 0 & 1 & 0 & 350 \\ 0 & 0 & -1 & -1 & -940 \end{array} \quad \begin{array}{l} \\ L_2 + L_3 \\ \\ L_4 + L_3 \end{array}$$

$$\begin{array}{ccccc} 1 & 0 & 0 & 1 & 870 \\ 0 & 1 & 0 & 0 & 230 \\ 0 & 0 & 1 & 0 & 350 \\ 0 & 0 & 0 & -1 & -590 \end{array} \quad \begin{array}{l} L_1 + L_4 \\ \\ \\ (-1) \cdot L_4 \end{array}$$

$$\begin{array}{ccccc} 1 & 0 & 0 & 0 & 280 \\ 0 & 1 & 0 & 0 & 230 \\ 0 & 0 & 1 & 0 & 350 \\ 0 & 0 & 0 & 1 & 590 \end{array}$$

$$\begin{array}{ccccc} 1 & -1 & 0 & 0 & 50 \\ -1 & 0 & 0 & -1 & -870 \\ 0 & -1 & 0 & -1 & -820 \end{array}$$

$$\begin{array}{ccccc} 0 & 1 & -1 & 0 & -120 \\ 0 & -1 & 0 & -1 & -820 \\ 0 & 0 & -1 & -1 & -940 \end{array}$$

$$\begin{array}{ccccc} 0 & 0 & -1 & -1 & -940 \\ 0 & 0 & 1 & 0 & 350 \\ 0 & 0 & 0 & -1 & -590 \end{array} \quad L_4$$

$$\begin{array}{ccccc} 1 & 0 & 0 & 1 & 870 \\ 0 & 0 & 0 & -1 & -590 \\ 1 & 0 & 0 & 0 & 280 \end{array} \quad \begin{array}{l} 8 \\ \\ L_1 \rightarrow \end{array}$$

$$\begin{aligned} 280 - 230 &= 430 - 380 \\ 50 &= 50 \\ 280 + 590 &= 870 \\ 870 &= 870 \end{aligned}$$

$$\begin{aligned} 230 - 350 &= -120 \\ -120 &= -120 \\ x &= 350 \end{aligned}$$

$$\begin{array}{ccccc} 0 & 1 & -1 & 0 & -120 \\ 0 & 0 & 1 & 0 & 350 \\ L_2 & 0 & 1 & 0 & 230 \end{array}$$