

$$\left[\begin{array}{cccc|c} 1 & -1 & -2 & 2 & -1 \\ -3 & 4 & 7 & -12 & 2 \\ 2 & -4 & -3 & -2 & -12 \\ 5 & -1 & -3 & -31 & -20 \end{array} \right] \begin{array}{l} \left[\begin{array}{l} 3 \\ -2 \end{array} \right] \\ -5 \end{array}$$

$$\left[\begin{array}{cccc|c} 1 & -1 & -2 & 2 & -1 \\ 0 & 1 & 1 & -6 & -1 \\ 0 & -2 & 1 & -6 & -10 \\ 0 & 4 & 7 & -41 & -15 \end{array} \right] \begin{array}{l} \left[\begin{array}{l} 2 \\ -4 \end{array} \right] \\ -15 \end{array}$$

$$\left[\begin{array}{cccc|c} 1 & -1 & -2 & 2 & -1 \\ 0 & 1 & 1 & -6 & -1 \\ 0 & 0 & 3 & -18 & -12 \\ 0 & 0 & 3 & -17 & -11 \end{array} \right] \begin{array}{l} \cdot (1/3) \\ -1 \end{array}$$

$$\left[\begin{array}{cccc|c} 1 & -1 & -2 & 2 & -1 \\ 0 & 1 & 1 & -6 & -1 \\ 0 & 0 & 1 & -6 & -4 \\ 0 & 0 & 0 & 1 & 1 \end{array} \right] \begin{array}{l} \left[\begin{array}{l} 6 \\ 6 \end{array} \right] \\ -2 \end{array}$$

$$\left[\begin{array}{cccc|c} 1 & -1 & -2 & 0 & -3 \\ 0 & 1 & 1 & 0 & 5 \\ 0 & 0 & 1 & 0 & 2 \\ 0 & 0 & 0 & 1 & 1 \end{array} \right] \begin{array}{l} \left[\begin{array}{l} -1 \\ 2 \end{array} \right] \\ 1 \end{array}$$

$$\left[\begin{array}{cccc|c} 1 & -1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & 0 & 2 \\ 0 & 0 & 0 & 1 & 1 \end{array} \right] \begin{array}{l} \left[\begin{array}{l} 1 \end{array} \right] \end{array}$$

$$\left[\begin{array}{cccc|c} 1 & 0 & 0 & 0 & 4 \\ 0 & 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & 0 & 2 \\ 0 & 0 & 0 & 1 & 1 \end{array} \right]$$

$$\left\{ \begin{array}{l} x=4 \\ y=3 \\ z=2 \\ w=1 \end{array} \right.$$