

$$A = \begin{pmatrix} -3 & 6 & -5 \\ 1 & -1 & 1 \\ 2 & -4 & 3 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} -3 & 6 & -5 & 1 & 0 & 0 \\ 1 & -1 & 1 & 0 & 1 & 0 \\ 2 & -4 & 3 & 0 & 0 & 1 \end{array}$$

$$\begin{array}{ccc|ccc} 2 & -4 & 3 & 0 & 0 & 1 \\ 1 & -1 & 1 & 0 & 1 & 0 \end{array} \quad \left. \begin{array}{l} / \cdot 3 \\ \oplus \end{array} \right\}$$

$$\begin{array}{ccc|ccc} \textcircled{-3} & 6 & -5 & 1 & 0 & 0 \end{array}$$

$$\begin{array}{ccc|ccc} 2 & -4 & 3 & 0 & 0 & 1 \end{array}$$

$$\begin{array}{ccc|ccc} \textcircled{1} & -1 & 1 & 0 & 1 & 0 \end{array} \quad \left. \begin{array}{l} / \cdot (-2) \\ \oplus \end{array} \right\}$$

$$\begin{array}{ccc|ccc} 0 & 3 & -2 & 1 & 3 & 0 \end{array}$$

$$\begin{array}{ccc|ccc} 2 & -4 & 3 & 0 & 0 & 1 \end{array}$$

$$\begin{array}{ccc|ccc} 0 & -2 & 1 & 0 & -2 & 1 \end{array} \quad \left. \begin{array}{l} / \cdot 3 \\ \oplus \end{array} \right\}$$

$$\begin{array}{ccc|ccc} 0 & \textcircled{3} & -2 & 1 & 3 & 0 \end{array} \quad \left. \begin{array}{l} / \cdot 2 \\ \oplus \end{array} \right\}$$

$$\left[\begin{array}{ccc|ccc} 2 & -4 & \textcircled{3} & 0 & 0 & 1 \\ 0 & -2 & 1 & 0 & -2 & 1 \\ 0 & 0 & -1 & 2 & 0 & 3 \end{array} \right] \oplus$$

$/: (-3)$

$$\left[\begin{array}{ccc|ccc} 2 & 2 & 0 & 0 & 6 & -2 \\ 0 & -2 & \textcircled{1} & 0 & -2 & 1 \\ 0 & 0 & -1 & 2 & 0 & 3 \end{array} \right] \oplus$$

$$\left[\begin{array}{ccc|ccc} 2 & \textcircled{2} & 0 & 0 & 6 & -2 \\ 0 & -2 & 0 & 2 & -2 & 4 \\ 0 & 0 & -1 & 2 & 0 & 3 \end{array} \right] \oplus$$

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

$/: 2$

$/: (-2)$

$/: (-1)$

$$\left[\begin{array}{ccc|ccc} 1 & 0 & 0 & 1 & 2 & 1 \\ 0 & 1 & 0 & -1 & 1 & -2 \\ 0 & 0 & 1 & -2 & 0 & -3 \end{array} \right] \Rightarrow$$

$$\Rightarrow A^{-1} = \begin{pmatrix} 1 & 2 & 1 \\ -1 & 1 & -2 \\ -2 & 0 & -3 \end{pmatrix}$$

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

$$A^{-1} \cdot L = \begin{pmatrix} 1 & 2 & 1 \\ -1 & 1 & -2 \\ -2 & 0 & -3 \end{pmatrix} \cdot \begin{pmatrix} 2 \\ 3 \\ -1 \end{pmatrix}$$

$$= \begin{pmatrix} 1 \cdot 2 + 2 \cdot 3 + 1 \cdot (-1) \\ -1 \cdot 2 + 1 \cdot 3 - 2 \cdot (-1) \\ -2 \cdot 2 + 0 \cdot 3 - 3 \cdot (-1) \end{pmatrix} = \begin{pmatrix} 7 \\ 3 \\ -1 \end{pmatrix}$$

$$\Rightarrow x_1 = 7; \quad x_2 = 3; \quad x_3 = -1$$