

$$\sim \begin{bmatrix} 1 & -2 & 1 & 5 & 7 \\ 0 & 1 & -15 & -16 & -32 \\ 0 & 0 & 4 & 3 & 7 \\ 0 & 0 & 33 & 32 & 65 \end{bmatrix} \begin{matrix} \leftarrow (-8) \cdot R_3 \\ \leftarrow (-8) \cdot R_4 \end{matrix}$$

$$\sim \begin{bmatrix} 1 & -2 & 1 & 5 & 7 \\ 0 & 1 & -15 & -16 & -32 \\ 0 & 0 & 1 & 8 & 9 \\ 0 & 0 & 4 & 3 & 7 \end{bmatrix} \begin{matrix} \leftarrow (-4) \cdot R_3 \\ \leftarrow (-4) \cdot R_4 \end{matrix}$$

$$\sim \begin{bmatrix} 1 & -2 & 1 & 5 & 7 \\ 0 & 1 & -15 & -16 & -32 \\ 0 & 0 & 1 & 8 & 9 \\ 0 & 0 & 0 & -20 & -29 \end{bmatrix}$$

$$\begin{cases} x_1 - 2x_2 + x_3 + 5x_4 = 7 \\ x_2 - 15x_3 - 16x_4 = -32 \\ x_3 + 8x_4 = 9 \\ -20x_4 = -29 \end{cases} \begin{cases} x_4 = 1 \\ x_3 = 1 \\ x_2 = -1 \\ x_1 = -1 \end{cases}$$

$$X = [1 \quad -1 \quad 1 \quad 1]^T$$