

$$\begin{pmatrix} 21 & 8 & -66 \\ 28 & -23 & 13 \end{pmatrix}$$

$$L_2 \leftarrow 21L_2 - 28L_1$$

$$1 \quad 2 \quad 1 \quad -1$$

$$0 \quad 1 \quad 2 \quad 1$$

$$0 \quad 0 \quad 0 \quad 0$$

$$x = -1 - 2(1 - 2z) - z = -3 + 3z$$

$$y = 1 - 2z$$

$$\begin{cases} x = -3 + 3z \\ y = 1 - 2z \\ z = 0 + 1z \end{cases}$$

$$x + 2y + z = -1$$

$$y + 2z = 1$$

$$x = -1 - 2y - z$$

$$y = 1 - 2z$$

$$\begin{array}{r}
 \textcircled{-1}x \quad -2y + 3z = 17 \\
 -2x + 2y + 3z = 36 \\
 \textcircled{5}x + 2y - 1z = 10
 \end{array}
 \left| \begin{array}{l} \cdot (-2) \\ \cdot 1 \end{array} \right|
 \left| \begin{array}{l} \cdot 5 \\ \\ \cdot 1 \end{array} \right.$$

$$L_2 \leftarrow L_2 + (-2) \cdot L_1$$

$$L_3 \leftarrow L_3 + 5L_1$$

$$-1x - 2y + 3z = 17$$

$$\begin{array}{l}
 6y - 3z = 2 \\
 8y + 14z = 95
 \end{array}$$

$$\begin{pmatrix} 1 & -2 & 3 & 17 \\ -2 & 2 & 3 & 36 \\ 5 & 2 & -1 & 10 \end{pmatrix}$$

$$L_3 \leftarrow L_3 - 5L_1$$

$$L_2 \leftarrow L_2 - L_1(-2)$$

$$\begin{pmatrix} 1 & -2 & 3 & 17 \\ 0 & -2 & 9 & 70 \\ 0 & 12 & -16 & -15 \end{pmatrix}$$