$$\left[\begin{array}{ccc|c} 1 & 2 & 6 & -1 \\ 2 & 1 & 1 & 8 \\ 3 & 1 & -1 & 15 \\ 1 & 3 & 10 & -5 \end{array}\right] = \tag{1}$$

$$L_3 \to 3L_2 - 2L_3 \mid = \left[\begin{array}{ccc|c} 1 & 2 & 6 & -1 \\ 2 & 1 & 1 & 8 \\ 0 & 1 & 5 & -6 \\ 1 & 3 & 10 & -5 \end{array}\right] = \tag{2}$$

$$L_2 \to 2L_1 - L_2 \mid = \left[\begin{array}{ccc|c} 1 & 2 & 6 & -1 \\ 0 & 3 & 11 & -10 \\ 0 & 1 & 5 & -6 \\ 1 & 3 & 10 & -5 \end{array}\right] = \tag{3}$$

$$L_3 \to \frac{L_2 - 3L_3}{-4} \mid = \left[\begin{array}{ccc|c} 1 & 2 & 6 & -1 \\ 0 & 3 & 11 & -10 \\ 0 & 0 & 1 & -2 \\ 1 & 3 & 10 & -5 \end{array}\right] = \tag{4}$$

$$L_2 \to L_4 - L_2 + L_3 \mid = \left[\begin{array}{ccc|c} 1 & 2 & 6 & -1 \\ 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & -2 \\ 1 & 3 & 10 & -5 \end{array}\right] = \tag{5}$$

$$L_1 \to L_4 - L_1 - 4L_3 \mid = \left[\begin{array}{ccc|c} 0 & 1 & 0 & 4 \\ 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & -2 \\ 1 & 3 & 10 & -5 \end{array}\right] = \tag{6}$$

$$L_2 \to L_1, L_1 \to L_2 \mid = \left[\begin{array}{ccc|c} 1 & 0 & 0 & 3 \\ 0 & 1 & 0 & 4 \\ 0 & 0 & 1 & -2 \\ 1 & 3 & 10 & -5 \end{array}\right] \tag{7}$$

$$L_4 \to L_4 - L_1 - 3L_2 - 10L_3 \mid = \left[\begin{array}{ccc|c} 1 & 0 & 0 & 3 \\ 0 & 1 & 0 & 4 \\ 0 & 0 & 1 & -2 \\ 0 & 0 & 0 & 0 \end{array}\right] \tag{8}$$

Thus, $x = 3, y = 4, z = -2$.