Question 26

We are row reducing the augmented matrix:

$$\left[\begin{array}{ccc|c} 1 & -3 & 1 & 5 \\ -2 & 7 & -6 & -9 \\ 1 & -2 & -3 & 6 \end{array}\right]$$

$$\xrightarrow{R_2 := R_2 - \frac{-2}{1} \times R_1} \left[\begin{array}{ccc|c} 1 & -3 & 1 & 5 \\ 0 & 1 & -4 & 1 \\ 1 & -2 & -3 & 6 \end{array}\right]$$

$$\xrightarrow{R_3 := R_3 - \frac{1}{1} \times R_1} \left[\begin{array}{ccc|c} 1 & -3 & 1 & 5 \\ 0 & 1 & -4 & 1 \\ 0 & 1 & -4 & 1 \end{array}\right]$$

$$\xrightarrow{R_1 := R_1 - \frac{-3}{1} \times R_2} \left[\begin{array}{ccc|c} 1 & 0 & -11 & 8 \\ 0 & 1 & -4 & 1 \\ 0 & 1 & -4 & 1 \end{array}\right]$$

$$\xrightarrow{R_3 := R_3 - \frac{1}{1} \times R_2} \left[\begin{array}{ccc|c} 1 & 0 & -11 & 8 \\ 0 & 1 & -4 & 1 \\ 0 & 0 & 0 & 0 \end{array}\right]$$