$$\left[\begin{array}{ccc|c} 1 & 2 & -1 & 1 \\ 3 & -1 & -2 & 9 \\ 3 & 4 & 7 & -5 \\ 2 & -2 & -1 & 7 \end{array}\right]$$ -3, -3, -2

$$\left[\begin{array}{ccc|c} 1 & 2 & -1 & 1 \\ 0 & -7 & 1 & 6 \\ 0 & -2 & 10 & -8 \\ 0 & -6 & 1 & 5 \end{array}\right]$$ $-1/7$, $-2/7$, $-6/7$

$$\left[\begin{array}{ccc|c} 1 & 2 & -1 & 1 \\ 0 & 1 & -1/7 & -6/7 \\ 0 & 0 & 68/7 & -68/7 \\ 0 & 0 & 1/7 & -1/7 \end{array}\right]$$ $\cdot \frac{7}{68}$, $\cdot 7$

$$\left[\begin{array}{ccc|c} 1 & 2 & -1 & 1 \\ 0 & 1 & -1/7 & -6/7 \\ 0 & 0 & 1 & -1 \\ 0 & 0 & 1 & -1 \end{array}\right]$$ $-$ overens

$$(-2)+(-7)x = 0$$
$$-7x = 2$$
$$x = -2/7$$

$$(-6)+(-7)x = 0$$
$$-7x = 6$$
$$x = -6/7$$

$$10 + 1\cdot\frac{-2}{7} = 10 - \frac{2}{7} = \frac{70}{7} - \frac{2}{7} = \frac{68}{7}$$

$$1 + 1\left(\frac{-6}{7}\right) = 1 - \frac{6}{7} = \frac{1}{7}$$

$$-8 + 6\left(\frac{-2}{7}\right) = -8 - \frac{12}{7} = \frac{-56}{7} - \frac{12}{7} = \frac{-68}{7}$$

$$5 + 6\left(\frac{-6}{7}\right) = 5 - \frac{36}{7} = \frac{35}{7} - \frac{36}{7} = \frac{-1}{7}$$

$$
\begin{cases}
x+2y-z=1 & (1)\\
3x-y-2z=9 & (2)\\
3x+4y+7z=-5 & (3)\\
2x-2y-z=7 & (4)
\end{cases}
$$