

$$\begin{cases} \frac{1}{4}x + \frac{3}{4}y - z = \frac{1}{8} \\ x - \frac{3}{2}y + \frac{4}{3}z = \frac{1}{3} \\ \frac{1}{3}x + \frac{1}{2}y - \frac{2}{3}z = \frac{1}{6} \end{cases}$$

Lösungsmenge

Lösung:

$$\begin{cases} \frac{1}{4}x + \frac{3}{4}y - z = \frac{1}{8} \\ x - \frac{3}{2}y + \frac{4}{3}z = \frac{1}{3} \\ \frac{1}{3}x + \frac{1}{2}y - \frac{2}{3}z = \frac{1}{6} \end{cases}$$

erste Gleichung mal 8, zweite mal 6, dritte mal 6

$$\begin{cases} 2x + 6y - 8z = 1 \\ 6x - 9y + 8z = 2 \\ 2x + 3y - 4z = 1 \end{cases}$$

erste Gleichung plus zweite und zweite plus 2mal die dritte

$$\begin{cases} 8x - 3y = 3 \\ 10x - 3y = 4 \end{cases}$$

Subtraktion

$$-2x = -1 \text{ also } x = \frac{1}{2}$$

einsetzen

$$\begin{cases} 2(0.5) + 6y - 8z = 1 \\ 6(0.5) - 9y + 8z = 2 \end{cases}$$

umformen

$$\begin{cases} 6y - 8z = 0 \\ -9y + 8z = -1 \end{cases}$$

Addition

$$-3y = -1 \text{ also } y = \frac{1}{3}$$

einsetzen

$$6 \cdot \frac{1}{3} - 8z = 0 \text{ also } z = \frac{1}{4}$$