$$\begin{cases} x - 5y + 3z = 9 & (1) \\ 2x - y + 4z = 6 & (2) \\ 3x - 2y + z = 2 & (3) \end{cases}$$

Elimination de z:

$$\begin{array}{r|rrrl} (1) & x & -5y & +3z & = 9 \\ -3\cdot(3) & -9x & +6y & -3z & = -6 \\ \hline \Sigma & -8x & +y & / & = 3 \quad (4) \end{array}$$

$$\begin{array}{r|rrrl} (2) & 2x & -y & +4z & = 6 \\ -4\cdot(3) & -12x & +8y & -4z & = -8 \\ \hline \Sigma & -10x & +7y & / & = -2 \quad (5) \end{array}$$

$$\begin{array}{r|rrl} -7\cdot(4) & 56x & -7y & = -21 \\ (5) & -10x & +7y & = -2 \\ \hline \Sigma & 46x & / & = -23 \end{array} \qquad \text{donc } x = -\frac{23}{46} = -\frac{1}{2}$$

Substitution x dans (4)

$$-8\cdot\left(-\tfrac{1}{2}\right) + y = 3 \qquad \text{donc } y = -1$$

Substitution x et y dans (1)

$$-\frac{1}{2} - 5(-1) + 3z = 9 \qquad \text{donc } z = \frac{3}{2}$$

<u>Solution:</u> $x = -1/2$, $y = -1$, $z = 3/2$

Preuve: dans (2), par exemple

$$2\cdot(-1/2) - (-1) + 4(3/2) = -1 + 1 + 6 = 6 \checkmark$$