

Soustava lineárních rovnic - řešení

$$\begin{aligned} \text{I.} \quad & x + 2y - z - t = -4 \\ \text{II.} \quad & 2x + y - z - 3t = -2 \\ \text{III.} \quad & -x + 2y + 3z - t = 1 \\ \text{IV.} \quad & 2x + 3y + 4z - 5t = -5 \end{aligned}$$

$$\begin{array}{c} \left| \begin{array}{cccc|c} 1 & 0 & 2 & -1 & -4 \\ 2 & 1 & -1 & -3 & -2 \\ -1 & 2 & 3 & -1 & 1 \\ 2 & 3 & 4 & -5 & -5 \end{array} \right| \sim \left| \begin{array}{cccc|c} 1 & 0 & 2 & -1 & -4 \\ 0 & 1 & -5 & -1 & 6 \\ 0 & 2 & 5 & -2 & -3 \\ 0 & 3 & 0 & -3 & 3 \end{array} \right| \sim \left| \begin{array}{cccc|c} 1 & 0 & 2 & -1 & -4 \\ 0 & 1 & -5 & -1 & 6 \\ 0 & 0 & 15 & 0 & -15 \\ 0 & 0 & 15 & 0 & -15 \end{array} \right| \end{array}$$

$(-2) = -2, 0, -4, 2 \mid 8$
 $(-2) = 0, -2, 10, 2 \mid -12$
 $(-3) = 0, -3, 15, 3 \mid -18$

mám 4 neznámé a 3 rovnice \Rightarrow parametr

$$\text{III.} \quad 15z = -15$$

$$\underline{\underline{z = -1}}$$

$$\text{II.} \quad y - 5(-1) - t = 6$$

$$y + 5 - t = 6 \quad /-5$$

$$y - t = 1$$

$$\underline{\underline{y = t + 1}}$$

$$\text{I.} \quad x + 2 \cdot (-1) - t = -4$$

$$x - 2 - t = -4 \quad /+2$$

$$x - t = -2 \quad /+t$$

$$\underline{\underline{x = t - 2}}$$

$$\underline{\underline{\vec{v} = (t-2; t+1; -1; t)}}$$