

Soustava lineárních rovnic - řešení

- I. $x - y + 2z - t = 5$
- II. $2x - 3y + z - 7t = -1$
- III. $3x - y - 2z - 7t = -5$
- IV. $4x + 2y - z - t = 5$

$$\left(\begin{array}{cccc|c} 1 & -1 & 2 & -1 & 5 \\ 2 & -3 & 1 & -7 & -1 \\ 3 & -1 & -2 & -7 & -5 \\ 4 & 2 & -1 & -1 & 5 \end{array} \right) \sim \left(\begin{array}{cccc|c} 1 & -1 & 2 & -1 & 5 \\ 0 & -1 & -3 & -5 & -11 \\ 0 & 2 & -8 & -4 & -20 \\ 0 & 6 & -9 & 3 & -15 \end{array} \right) \sim$$

$$\cdot (-2) = -2, 2, -4, 2 \mid -10$$

$$\cdot (-3) = -3, 3, -6, 3 \mid -15$$

$$\cdot (-4) = -4, 4, -8, 4 \mid -20$$

$$\sim \left(\begin{array}{cccc|c} 1 & -1 & 2 & -1 & 5 \\ 0 & -1 & -3 & -5 & -11 \\ 0 & 1 & -4 & -2 & -10 \\ 0 & 2 & -3 & 1 & -5 \end{array} \right) \sim \left(\begin{array}{cccc|c} 1 & -1 & 2 & -1 & 5 \\ 0 & -1 & -3 & -5 & -11 \\ 0 & 0 & -7 & -7 & -21 \\ 0 & 0 & -9 & -9 & -27 \end{array} \right) \sim$$

$$\cdot 2 = 0, -2, -6, -10 \mid -22$$

$$\text{III. } -y - t = -3$$

$$-y = t - 3$$

$$\underline{y = 3 - t}$$

$$\underline{\underline{\vec{v} = (t+1; 2-2t; 3-t; t)}}$$

$$\text{II. } -y - 3(3-t) - 5t = -11$$

$$-y - 9 + 3t - 5t = -11 \quad A9$$

$$-y - 2t = -2$$

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

$$\text{I. } x - (2-2t) + 2(3-t) - t = 5$$

$$x - 2 + 2t + 6 - 2t - t = 5$$

$$x = t + 1$$