

# Soustava rovnic: řešte

$$\begin{aligned} \text{I.} \quad & x + y + z - t = 0 \\ \text{II.} \quad & x + 2y - z + t = 4 \\ \text{III.} \quad & y - 2z + t = -4 \\ \text{IV.} \quad & 2x + 4y - 2z + t = 0 \end{aligned}$$

$$\left| \begin{array}{cccc|c} 1 & 1 & 1 & -1 & 0 \\ -1 & 2 & -1 & 1 & -4 \\ 0 & 1 & -2 & 1 & -4 \\ 2 & 4 & -2 & 1 & 0 \end{array} \right| \sim \left| \begin{array}{cccc|c} 1 & 1 & 1 & -1 & 0 \\ 0 & -1 & 2 & -2 & -4 \\ 0 & 1 & -2 & 1 & -4 \\ 0 & 2 & -4 & 3 & 0 \end{array} \right| \sim \left| \begin{array}{cccc|c} 1 & 1 & 1 & -1 & 0 \\ 0 & -1 & 2 & -2 & -4 \\ 0 & 0 & 0 & -1 & -8 \\ 0 & 0 & 0 & -1 & -8 \end{array} \right|$$

$\cdot (-2) = -2 \quad -2 \quad -2 \quad 2 \quad 10$      $\cdot 2 = 0 \quad -2 \quad 4 \quad -4 \quad -8$

$$\text{III.} \quad -t = -8$$

$$\underline{t = 8}$$

$$\text{II.} \quad -y + 2z - 2 \cdot (8) = -4$$

$$-y + 2z - 16 = -4 \quad /+16$$

$$2z - y = 12 \quad /+y$$

$$2z = 12 + y \quad /:2$$

$$\underline{z = \frac{12+y}{2}}$$

$$\text{I.} \quad x + y + \frac{12+y}{2} - 8 = 0 \quad / \cdot 2$$

$$2x + 2y + 12 + y - 16 = 0$$

$$2x + 3y - 4 = 0$$

$$x = \frac{4-3y}{2}$$

uztaženo k y:

$$\underline{\vec{v} = \left( \frac{4-3y}{2}; y; \frac{12+y}{2}; 8 \right)}$$

uztaženo k z:

$$\underline{\vec{v} = (20-3z; 2z-12; z; 8)}$$