

# Soustava rovnic: řešte

$$I. \quad x + y + z - 4t = 1$$

$$II. \quad 2x - y + 3z - 13t = 1$$

$$III. \quad -2x + 2y + z + 6t = 8$$

$$IV. \quad 3x - 2z - 5t = -10$$

$$\left( \begin{array}{cccc|c} 1 & 1 & 1 & -4 & 1 \\ 2 & -1 & 3 & -13 & 1 \\ -2 & 2 & 1 & 6 & 8 \\ 3 & 0 & -2 & -5 & -10 \end{array} \right) \sim \left( \begin{array}{cccc|c} 1 & 1 & 1 & -4 & 1 \\ 0 & 3 & -1 & 5 & +1 \\ 0 & 4 & 3 & -2 & 10 \\ 0 & -3 & -5 & 7 & -13 \end{array} \right) \sim \left( \begin{array}{cccc|c} 1 & 1 & 1 & -4 & 1 \\ 0 & 3 & -1 & 5 & 1 \\ 0 & 0 & -13 & 26 & -26 \\ 0 & 0 & -6 & 12 & -12 \end{array} \right) \sim$$

$$\cdot (-2) = -2, -2, -2, 8 | -2$$

$$\cdot 2 = 2, 2, 2, -8 | 2$$

$$\cdot (-3) = -3, -3, -3, 12 | -3$$

$$\cdot 4 = 0, 12, -4, 20 | 4$$

$$\cdot (-3) = 0, 12, -9, 6 | -30$$

$$\sim \left( \begin{array}{cccc|c} 1 & 1 & 1 & -4 & 1 \\ 0 & 3 & -1 & 5 & 1 \\ 0 & 0 & -1 & 2 & -2 \\ 0 & 0 & -1 & 2 & -2 \end{array} \right) \begin{array}{l} I. \\ II. \\ III. \\ \hline \end{array}$$

$$III. \quad -y + 2t = -2$$

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

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

$$II. \quad 3y - (2 + 2t) + 5t = 1$$

$$3y - 2 - 2t + 5t = 1 \quad /+2$$

$$3y + 3t = 3 \quad /:3$$

$$y + t = 1$$

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

$$I. \quad x + (1 - t) + (2 + 2t) - 4t = 1$$

$$x + 1 - t + 2 + 2t - 4t = 1$$

$$x + 3 - 3t = 1 \quad /-3$$

$$\underline{x = 3t - 2}$$

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