

Soustava dvou lineárních rovnic o dvou neznámých

prí rieš rovnici

$$x - 2y = 4 \quad \begin{matrix} \rightarrow \text{jedna rve} \\ \rightarrow \text{dve nezháme} \end{matrix}$$

\Rightarrow nekonečne mnoho
riešení \rightarrow SAKÉ?!

\rightarrow VYJÁDRÍT NEZNÁMOU
Z DANE ROVNICE

$$x - 2y = 4 \quad | +2y \quad | -x$$

$$\underline{x}: \quad \underline{\underline{x = 2y + 4}}^* \quad |$$

$$\underline{y}: \quad -2y = -x + 4 \quad | \text{ zmeňa znamének}$$

$$2y = x - 4 \quad | : 2$$

$$\underline{\underline{y = \frac{x-4}{2}}}^* \quad \text{hebo } \frac{x}{2} - 2$$

$$\begin{array}{l} * \quad x - 2y = 1 \\ * \quad 2x + y = 2 \end{array}$$

DOSAŽOVACÍ
METODA

- z kterékoliv rovnice VYSIA'DRÍM
jádroukoli herznímoù (aby u ní nebylo
dise)

$$x - 2y = 1 \quad |+2y$$

$$x = (2y + 1)$$

$$\begin{aligned} 2x + y &= 2 \quad |-2x \\ y &= (-2x + 2) \end{aligned}$$

- do jinej rovnice dosadim \rightarrow vypočítám

$$\begin{aligned} 2(2y + 1) + y &= 2 \\ 4y + 2 + y &= 2 \end{aligned}$$

$$\begin{aligned} x - 2(-2x + 2) &= 1 \\ x + 4x - 4 &= 1 \end{aligned}$$

$$\begin{aligned} 5y + 2 &= 2 && | -2 \\ 5y &= 0 && | :5 \\ \underline{\underline{y}} &= 0 \end{aligned}$$

$$\begin{aligned} x &= 2y + 1 \\ x &= 2 \cdot 0 + 1 \\ \underline{\underline{x}} &= 1 \end{aligned}$$

$$5x - 4 = 1 \quad | +4$$

$$5x = 5$$

$$\underline{\underline{x = 1}}$$

$$y = -2x + 2$$

$$y = -2 \cdot 1 + 2$$

$$\underline{\underline{y = 0}}$$

$$\begin{array}{rcl} x - 2y & = & 5 \\ 3x + 2y & = & -1 \end{array}$$

$$\begin{aligned} x - 2y &= 5 \\ x &= (2y + 5) \\ 3x + 2y &= -1 \\ 3(2y + 5) + 2y &= -1 \\ 6y + 15 + 2y &= -1 \\ 8y + 15 &= -1 \\ 8y &= -16 \\ y &= \underline{-2} \end{aligned}$$

$$\begin{aligned} x &= 2y + 5 \\ x &= 2 \cdot (-2) + 5 \\ x &= -4 + 5 \\ x &= \underline{\underline{1}} \end{aligned}$$

$$x = 1; y = -2$$

$$\begin{array}{r} 3a + b = 5 \\ a + b = 3 \\ \hline \end{array}$$

například:

$$\begin{array}{ll} a + b = 3 & a = 3 - b \\ a = (3 - b) & a = 3 - 2 \\ 3a + b = 5 & \underline{a = 1} \\ 3(3 - b) + b = 5 & \\ 9 - 3b + b = 5 & \\ 9 - 2b = 5 & \\ - 2b = 5 - 9 & \\ - 2b = - 4 & \\ \underline{b = 2} & \end{array}$$

$$a = 1; b = 2$$

$$x - 3y = -32$$

$$5x + y = 0$$

$$\textcircled{1} \quad x - 3y = -32 \quad | +3y$$
$$x = (3y - 32)$$
$$(-32 + 3y)$$

$$5x + y = 0$$

$$5 \cdot (3y - 32) + y = 0$$

$$15y - 160 + y = 0$$

$$16y - 160 = 0$$

$$16y = 160$$
$$\underline{\underline{y = 10}}$$

$$x = 3y - 32$$
$$x = 3 \cdot 10 - 32$$
$$x = 30 - 32$$
$$\underline{\underline{x = -2}}$$

| +160

$$-2x + 4y = -7$$

$$\textcircled{1} \quad -2y = 3$$

$$\begin{array}{r} x - 2y = 3 \\ \hline x = (2y + 3) \end{array}$$

$$-2\underline{x} + 4y = -7$$

$$-2(\underline{2y + 3}) + 4y = -7$$

$$-4y - 6 + 4y = -7$$

$$0 - 6 = -7 \quad /+6$$

$0 \neq -1 \Rightarrow \text{nemá řešení}$

$$\begin{array}{r}
 -5x + 3y = -4 \\
 -2x + y = -1 \\
 \hline
 -2x + y = -1 \quad | +2x \\
 y = (2x - 1) \times \\
 \hline
 -5x + 3y = -4 \\
 -5x + 3(2x - 1) = -4 \\
 -5x + 6x - 3 = -4 \quad | +3 \\
 x - 3 = -4 \quad | +3 \\
 \hline
 x = -1 \times
 \end{array}$$

$$\begin{aligned}
 y &= 2x - 1 \\
 y &= 2 \cdot (-1) - 1 \\
 y &= -2 - 1 \\
 y &= -3 \\
 \hline
 y &= -3
 \end{aligned}$$

$$\begin{aligned}
 x + 2y &= 11 \\
 5x - 3y &= 3 \\
 \hline
 x + 2y &= 11 \\
 x = (-2y + 11) \\
 5x - 3y &= 3 \\
 5(-2y + 11) - 3y &= 3 \\
 -10y + 55 - 3y &= 3 \\
 -13y + 55 &= 3 \quad | -55 \\
 -13y &= -52 \quad x \cancel{y} \\
 \underline{y} &= 4
 \end{aligned}$$

$$\begin{aligned}
 x &= -2y + 11 \\
 x &= -2 \cdot 4 + 11 \\
 x &= -8 + 11 \\
 x &= 3
 \end{aligned}$$