

Řešení soustavy rovnic - sčítací metoda

$$\begin{array}{l} * 3x + 2y = 7 \quad / \cdot 3 \text{ "společný násobek" } - \underline{6} (2y, 3y) \\ \heartsuit 4x + 3y = 10 \quad / \cdot 2 \end{array}$$

- rovnice upravím (vynásobím) tak,
aby po sečtení obou rovnic, \rightarrow
 \rightarrow JEDNA NEZNÁMÁ
"vypadla" \Rightarrow rovnici o jedné nezn.

$$\begin{array}{l} * 9x + 6y = 21 \\ \heartsuit -8x - 6y = -20 \end{array} \quad \left. \vphantom{\begin{array}{l} * 9x + 6y = 21 \\ \heartsuit -8x - 6y = -20 \end{array}} \right) + \text{ sečtu}$$

$$x = 1$$

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

→ vypočítat i druhou neznámou

⇒ vyberou jakoukoli rovnici →

→ dosadíme $x=1$ ⇒ vypočítáme

$$3x + 2y = 7$$

$$3 \cdot 1 + 2y = 7$$

$$3 + 2y = 7 \quad | -3$$

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

$$y = 2$$

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

$$\begin{array}{r}
 4x + 3y = 6 \\
 2x + y = 4 \quad | \cdot (-3) \\
 \hline
 4x + 3y = 6 \\
 -6x - 3y = -12 \quad | + \\
 \hline
 +2x \qquad = +6 \quad | :2 \\
 \qquad \qquad \underline{x = 3}
 \end{array}$$

$$\begin{array}{l}
 2x + y = 4 \\
 2 \cdot 3 + y = 4 \\
 6 + y = 4 \quad | -6 \Rightarrow \underline{y = -2}
 \end{array}$$

$$\begin{array}{r}
 4x + 3y = 6 \\
 2x + y = 4 \quad | \cdot (-2) \\
 \hline
 4x + 3y = 6 \\
 -4x - 2y = -8 \quad | + \\
 \hline
 \qquad \qquad \underline{y = -2} \\
 2x + y = 4 \\
 2x - 2 = 4 \quad | +2 \\
 2x = 6 \quad | :2 \\
 \underline{x = 3}
 \end{array}$$

$$5x + 7y = 101$$

$$7x - y = 55 \quad | \cdot 7$$

$$\begin{array}{r} 5x + 7y = 101 \\ 49x - 7y = 385 \end{array} \quad | +$$

$$54x = 486 \quad | : 2$$

$$27x = 243 \quad | : 3$$

$$9x = 81 \quad | : 9$$

$$\underline{\underline{x = 9}}$$

$$55 \cdot 7 = 50 \cdot 7 + 5 \cdot 7$$

$$7x - y = 55$$

$$7 \cdot 9 - y = 55$$

$$63 - y = 55 \quad | -63$$

$$\underline{\underline{+y = +8}}$$

$$5x + 7y = 101$$

$$5 \cdot 9 + 7y = 101$$

$$45 + 7y = 101 \quad | -45$$

$$7y = 56$$

$$\underline{\underline{y = 8}}$$

$$\begin{array}{r}
 x + y = 1 \\
 x - y = 1 \quad \Big) + \\
 \hline
 2x = 2 \\
 x = 1 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 x + y = 1 \\
 1 + y = 1 \quad | -1 \\
 \hline
 y = 0 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 5a - 3b = 1 \\
 7a + 3b = 5 \quad \Big) + \\
 \hline
 12a = 6 \quad | :12 \\
 a = \frac{1}{2} \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 7a + 3b = 5 \\
 7 \cdot \frac{1}{2} + 3b = 5 \\
 \frac{7}{2} + 3b = 5 \\
 3b = \frac{3}{2} \quad | :3 \\
 b = \frac{1}{2}
 \end{array}$$