Úlohy na přímé upravování soustavy rovnic

1.

$$\begin{aligned} x' &= 2x + y \,, \\ y' &= 2y \,. \end{aligned}$$

2.

$$\begin{aligned} x' &= 2x + y \,, \\ y' &= 3x + 4y \,. \end{aligned}$$

3.

$$\begin{aligned} x' &= -5x - 6y \,, \\ y' &= 8x + 9y \,. \end{aligned}$$

4.

$$\begin{aligned} x' &= -5x - 4y \,, \\ y' &= 10x + 7y \,. \end{aligned}$$

5.

$$\begin{aligned} x' &= 5x + 4y \,, \\ y' &= -9x - 7y \,. \end{aligned}$$

6.

$$\begin{aligned} x' &= -5x - y \,, \\ y' &= x - 3y - 9e^{2t} \,. \end{aligned}$$

7.

$$\begin{aligned} x' &= x + 3y + t \,, \\ y' &= x - y \,. \end{aligned}$$

8.

$$\begin{aligned} x' &= -4x - 4y + 2e^{2t} \,, \\ y' &= 6x + 6y + 2t \,. \end{aligned}$$

9.

$$\begin{aligned}
x' &= 3x + y + e^t\,, \\
y' &= -4x - 2y + te^t \\
x(0) &= y(0) = 0\,.
\end{aligned}$$

10.

$$\begin{aligned}
x' &= -2x + y \\
y' &= -4x + 2y
\end{aligned}$$

11.

$$\begin{aligned}
x' &= -5x + 4y \\
y' &= -9x + 7y
\end{aligned}$$

12.

$$\begin{aligned}
x' &= x + y + z\,, \\
y' &= x + y - z\,, \\
z' &= 2x - y\,.
\end{aligned}$$

13.

$$\begin{aligned}
x' &= 2x - y + 3z \\
y' &= -2x + y + 5z \\
z' &= -x - y + 6z
\end{aligned}$$