

Soustavy rovnic

a)
$$\begin{aligned}2a + 2b - c + d &= 4 \\4a + 3b - c + 2d &= 6 \\8a + 5b - 3c + 4d &= 12 \\3a + 3b - 2c + 2d &= 6\end{aligned}$$

b)
$$\begin{aligned}-a + b - c + d &= 0 \\-2a + b + c - 3d &= 0 \\a + 2b - 3c + d &= 0 \\2a + 3b + 4c - d &= 0\end{aligned}$$

c)
$$\begin{aligned}2a + b - c + d &= 1 \\3a - 2b + 2c - 3d &= 2 \\2a - b + c - 3d &= 4 \\5a + b - c + 2d &= -1\end{aligned}$$

d)
$$\begin{aligned}a + 2b + 3c - 2d &= 6 \\3a + 2b - c + 2d &= 4 \\2a - b - 2c - 3d &= 2 \\2a - 3b + 2c + d &= 8\end{aligned}$$

e)
$$\begin{aligned}2a + 3b + 11c + 5d &= 2 \\a + b + 5c + 2d &= 1 \\2a + b - 3c + 2d &= -3 \\a + b - 3c + 4d &= -3\end{aligned}$$

f)
$$\begin{aligned}2a + 5b + 4c + d &= 20 \\a + 3b + 2c + d &= 11 \\2a + 10b + 9c + 7d &= 40 \\3a + 8b + 9c + 2d &= 37\end{aligned}$$

g)
$$\begin{aligned}a - 3b - 26c + 22d &= 0 \\a - 8c + 7d &= 0 \\a + b - 2c + 2d &= 0 \\4a + 5b - 2c + 3d &= 0\end{aligned}$$

h)
$$\begin{aligned}a + 2b + 3c + 4d &= 0 \\7a + 14b + 20c + 27d &= 0 \\5a + 10b + 16c + 19d &= -2 \\3a + 5b + 6c + 13d &= 5\end{aligned}$$

Výsledky

a) $[1; 1; -1; -1]$

b) $[0; 0; 0; 0]$

c) \emptyset

d) $\left[\frac{19}{9}; -\frac{1}{3}; \frac{13}{9}; -\frac{1}{9}\right]$

e) $\left[-\frac{1}{2}; -\frac{3}{16}; \frac{7}{16}; -\frac{1}{4}\right]$

f) $[1; 2; 2; 0]$

g) $\left\{\left[s; t; \frac{1}{2}(-5s - 7t); -3s - 4t\right]; s, t \in \mathbb{R}\right\}$

h) $[1; -1; -1; 1]$