

- Wincos toldas
- 1 megoldas
- Vegtelenen sok toldas

Alaknuk meg λ -t úgy hogy igaz legyen:

$$2x_1 - x_2 + x_3 + x_4 = 1$$

$$x_1 + 2x_2 + x_3 + 4x_4 = 2$$

$$x_1 + 7x_2 - 4x_3 + 11x_4 = \lambda$$

$$\left(\begin{array}{cccc|c} 2 & -1 & 1 & 1 & 1 \\ 1 & 2 & -1 & 4 & 2 \\ 1 & 7 & -4 & 11 & \lambda \end{array} \right) \sim \left(\begin{array}{cccc|c} 1 & 2 & -1 & 4 & 2 \\ 2 & -1 & 1 & 1 & 1 \\ 1 & 7 & -4 & 11 & \lambda \end{array} \right) \sim \left(\begin{array}{cccc|c} 1 & 2 & -1 & 4 & 2 \\ 0 & -5 & 3 & -7 & -3 \\ 0 & 5 & -3 & 7 & \lambda - 2 \end{array} \right) \sim$$

$$\left(\begin{array}{cccc|c} 1 & 2 & -1 & 4 & 2 \\ 0 & 5 & -3 & 7 & 3 \\ 0 & 5 & -3 & 7 & \lambda - 2 \end{array} \right) \sim \left(\begin{array}{cccc|c} 1 & 2 & -1 & 4 & 2 \\ 0 & 5 & -3 & 7 & 3 \\ 0 & 0 & 0 & 0 & \lambda - 2 - 3 \end{array} \right)$$

Megoldas $\Leftrightarrow \lambda - 2 - 3 = 0$
 $\lambda = 5$

2) Cramer szabalyal!

$$2x_1 - x_2 - x_3 = 4$$

$$3x_1 + 4x_2 - 2x_3 = 11$$

$$3x_1 - 2x_2 + 4x_3 = 11$$

$$d = \begin{vmatrix} 2 & -1 & -1 \\ 3 & 4 & -2 \\ 3 & -2 & 4 \end{vmatrix} = 60$$

$$d_1 = \begin{vmatrix} 4 & -1 & -1 \\ 11 & 4 & -2 \\ 11 & -2 & 4 \end{vmatrix} = 180$$

$$d_2 = \begin{vmatrix} 2 & 4 & -1 \\ 3 & 11 & -2 \\ 3 & 11 & 4 \end{vmatrix} = 60$$

$$d_3 = \begin{vmatrix} 2 & -1 & 4 \\ 3 & 4 & 11 \\ 3 & -2 & 11 \end{vmatrix} = 60$$

$$x_1 = \frac{d_1}{d} = 3 \quad x_2 = \frac{d_2}{d} = 1 \quad x_3 = \frac{d_3}{d} = 1$$