







$$\text{d) } A = \begin{bmatrix} 2 & -3 & 1 \\ 2 & 0 & 3 \\ -4 & 1 & -2 \end{bmatrix}.$$

$$\text{e) } A = \begin{bmatrix} 3 & 0 & -1 \\ 4 & 4 & 1 \\ -2 & 1 & 1 \end{bmatrix}.$$





## Zadatak 2.

Riješite Cramerovom metodom sljedeće sustave linearnih jednadžbi:

a)

$$\begin{aligned}x_1 + x_2 &= 3 \\x_1 - x_2 &= -1,\end{aligned}$$

b)

$$\begin{aligned}2x_1 + 3x_2 &= 4 \\5x_1 + 6x_2 &= 7.\end{aligned}$$





### Zadatak 3.

Primjenom Cramerovog pravila diskutirajte sljedeći sustav jednažbi u ovisnosti o parametru  $\lambda \in \mathbb{R}$ :

$$\begin{aligned} -\lambda x_1 - 16x_2 &= -4 \\ x_1 + \lambda x_2 &= 1. \end{aligned}$$





## Zadatak 4.

Izračunajte determinantu matrice:

$$\text{a) } A = \begin{bmatrix} 0 & 2 & -1 \\ 0 & 5 & 0 \\ 0 & 1 & 1 \end{bmatrix},$$

$$\text{b) } B = \begin{bmatrix} 1 & 3 & 1 \\ 2 & 5 & 2 \\ -1 & 4 & -1 \end{bmatrix}.$$

$$\text{c) } C = \begin{bmatrix} 2 & -1 & 3 \\ 0 & -2 & 5 \\ 0 & 0 & 1 \end{bmatrix}.$$

$$\text{d) } D = \begin{bmatrix} 3 & 0 & 0 \\ -5 & 1 & 0 \\ -2 & 0 & -4 \end{bmatrix}.$$





$$\text{e) } E = \begin{bmatrix} 0 & 0 & 0 \\ -1 & 3 & 1 \\ 4 & 1 & 1 \end{bmatrix}.$$

$$\text{f) } F = \begin{bmatrix} 2 & -3 & 2 \\ 2 & 6 & -1 \\ 2 & -3 & 2 \end{bmatrix}.$$





## Zadatak 5.

Izračunajte:

$$\begin{vmatrix} 2 & -1 & 1 & 3 \\ 1 & 0 & 1 & -4 \\ 1 & 0 & -1 & -1 \\ 2 & 0 & -2 & 3 \end{vmatrix}.$$







## BINET - CAUCHYJEV TEOREM

### Zadatak 1.

Za matricu  $A \in M_4$  takvu da je  $\det A = 2$  odredite:

- a)  $\det(2A)$ ,
- b)  $\det A^4$ ,
- c)  $\det A^{-1}$ ,
- d)  $\det(-A)$ .





## Zadatak 2.

Za matricu  $A \in M_3$  takvu da je  $\det A = -3$  odredite:

- a)  $\det \left( \frac{1}{2}A \right)$ ,
- b)  $\det A^5$ ,
- c)  $\det A^{-1}$ ,
- d)  $\det(-A)$ .





## Primjer

Neka je  $A \in M_2$ ,  $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$  i  $\det A \neq 0$ . Tada je

$$A^{-1} = \frac{1}{\det A} \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}.$$

