

1. $M = \begin{pmatrix} 3 & 1 \\ 4 & -x \end{pmatrix}$ $N = \begin{pmatrix} y-3 & z \\ k-1 & 2 \end{pmatrix}$
 $M = N$ ise $x + y + z + k = ?$
 A) 1 B) -1 C) 10 D) -5 E) 0

2. $A = \begin{pmatrix} 5 & 2 \\ -1 & 4 \end{pmatrix}$ $B = \begin{pmatrix} 2 & 0 \\ -1 & 4 \end{pmatrix}$ ise $AxB^T = ?$
 A) $\begin{pmatrix} 10 & 3 \\ 3 & 5 \end{pmatrix}$ B) $\begin{pmatrix} 10 \\ 3 \end{pmatrix}$ C) $\begin{pmatrix} 3 & 5 \\ 1 & 0 \end{pmatrix}$
 D) $\begin{pmatrix} 5 & 3 \\ 0 & 1 \end{pmatrix}$ E) $\begin{pmatrix} 3 & 5 \\ 1 & 0 \end{pmatrix}$

3. $A = \begin{pmatrix} 3 & -1 & 2 \\ 1 & \sqrt{2} & 1 \\ 3 & -1 & 4 \end{pmatrix}$ ise $\frac{\sqrt{a_{33} + a_{22}^2}}{a_{23}} = ?$
 A) 1 B) 2 C) 3 D) 4 E) 5

4. $A = \begin{pmatrix} -1 & 3 & 2 \\ 2 & 0 & 1 \end{pmatrix}$ $B = (2, 0, 1)$ $A^T \cdot B = ?$
 A) 0 B) 3 C) $\begin{pmatrix} -1 \\ 3 \\ 2 \end{pmatrix}$
 D) $\begin{pmatrix} -2 \\ 0 \\ 2 \end{pmatrix}$ E) $\begin{pmatrix} -2 & 0 & 1 \\ 6 & 0 & 3 \\ 4 & 0 & 2 \end{pmatrix}$

5. $A = \begin{pmatrix} 1 & 0 & 5 & 7 \\ 2 & 1 & 3 & 4 \\ 3 & -1 & 3 & 5 \end{pmatrix}$ a_{23} elemanı nedir?
 A) 1 B) 3 C) 2 D) -1 E) 4

6. $A = \begin{pmatrix} -1 & 1 \\ 0 & 2 \end{pmatrix}$ $B = \begin{pmatrix} 3 & 2 \\ 1 & 0 \end{pmatrix}$ ise $2B - A = ?$
 A) $\begin{pmatrix} -5 & 0 \\ -1 & 4 \end{pmatrix}$ B) $\begin{pmatrix} 1 & 4 \\ 1 & 4 \end{pmatrix}$ C) $\begin{pmatrix} -1 & 0 \\ -5 & 0 \end{pmatrix}$
 D) $\begin{pmatrix} 7 & 3 \\ 2 & -2 \end{pmatrix}$ E) $\begin{pmatrix} 0 & 2 \\ 5 & 3 \end{pmatrix}$

7. $A = \begin{pmatrix} 5 & 3 & 0 \\ -1 & -2 & -1 \\ 0 & 3 & 0 \end{pmatrix}$ **M_{23} minörü nedir?**
 A) 15 B) -3 C) -5 D) 10 E) 3

8. $A^T = \begin{pmatrix} -1 & 2 \\ 1 & 1 \\ 0 & 3 \end{pmatrix}$ ise $A = ?$
 A) $\begin{pmatrix} 1 & 1 & 0 \\ 2 & 1 & 3 \end{pmatrix}$ B) $\begin{pmatrix} 0 & 1 & 1 \\ 1 & 2 & 3 \end{pmatrix}$
 C) $\begin{pmatrix} -1 & 1 & 0 \\ 2 & 1 & 3 \end{pmatrix}$ D) $\begin{pmatrix} 1 & 1 & -1 \\ 1 & 3 & 2 \end{pmatrix}$
 E) $\begin{pmatrix} 1 & 1 & 0 \\ 1 & 2 & 3 \end{pmatrix}$

9. Hangisinin tersi yoktur?

- A) $\begin{pmatrix} 5 & 4 \\ 5 & 2 \end{pmatrix}$ B) $\begin{pmatrix} 0 & 3 \\ 1 & 5 \end{pmatrix}$ C) $\begin{pmatrix} 1 & 4 \\ 0 & -4 \end{pmatrix}$
 D) $\begin{pmatrix} 1 & 0 \\ 0 & 2 \end{pmatrix}$ E) $\begin{pmatrix} 1 & 0 \\ 1 & 0 \end{pmatrix}$

10. $A = \begin{pmatrix} 6 & 3 & 2 \\ 0 & -2 & -3 \\ 4 & 2 & 1 \end{pmatrix}$

matrisinin a_{12} elemanının kofaktörü kaçtır?

- A) -12 B) 12 C) 11 D) 10 E) -9

11. $3x - y + 7 = 0$
 $y - 3z - 1 = 0$
 $4x + 2z + 2 = 0$

Doğrusal denklem sisteminin çözümü nedir?

- A) $(1, 1, 0)$ B) $(-1, 1, -2)$
 C) $(1, 4, -1)$ D) $(-1, 4, 1)$
 E) $(1, -2, 0)$

12. $\begin{vmatrix} 1 & 2 & -3 \\ -1 & -2 & 3 \\ 5 & 7 & 6 \end{vmatrix}$ determinanı nedir?

- A) -1 B) -18 C) 12 D) 16 E) 0