MALEK ALİ SMAİL / 20253833 / [illegible]

$\boxed{1}$

$$[A/I] = \left[\begin{array}{ccc|ccc} 1 & 2 & 3 & 1 & 0 & 0 \\ 2 & 5 & 7 & 0 & 1 & 0 \\ -2 & -4 & -5 & 0 & 0 & 1 \end{array}\right]$$

$A.B = B.A = I_{3x3}$ olduğundan dolayı, $B = A^{-1}$

$\Rightarrow$ A tersinirdir.

$$\xrightarrow[R_3 \to R_3 + 2.R_1]{R_2 \to R_2 - 2.R_1} \left[\begin{array}{ccc|ccc} 1 & 2 & 3 & 1 & 0 & 0 \\ 0 & 1 & 1 & -2 & 1 & 0 \\ 0 & 0 & 1 & 2 & 0 & 1 \end{array}\right]$$

A^{-1}, ters matrisi yardımıyla bulalım.

$$\xrightarrow[R_1 \to R_1 - 3.R_3]{R_2 \to R_2 - R_3} \left[\begin{array}{ccc|ccc} 1 & 2 & 0 & -5 & 0 & -3 \\ 0 & 1 & 0 & -4 & 1 & -1 \\ 0 & 0 & 1 & 2 & 0 & 1 \end{array}\right]$$

$$\xrightarrow{R_1 \to R_1 - 2.R_2} \left[\begin{array}{ccc|ccc} 1 & 0 & 0 & 3 & -2 & -1 \\ 0 & 1 & 0 & -4 & 1 & -1 \\ 0 & 0 & 1 & 2 & 0 & 1 \end{array}\right] = [I/B]$$

Dolaysıyla: $I = A^{-1}.A = B.A = A.B$

$$B = \begin{bmatrix} 3 & -2 & -1 \\ -4 & 1 & -1 \\ 2 & 0 & 1 \end{bmatrix}_{3X3}$$