

**a = {{3, 1, 4}, {100, 40, 60}, {16, 22, 14}}**

{{3, 1, 4}, {100, 40, 60}, {16, 22, 14}}

**MatrixFrom [a]**

**MatrixFrom[{{3, 1, 4}, {100, 40, 60}, {16, 22, 14}}]**

MatrixFrom[{{3, 1, 4}, {100, 40, 60}, {16, 22, 14}}]

**b = {{15}, {440}, {16}}**

{{15}, {440}, {16}}

**{15, 440, 16}**

**b1 = Matrixform[b]**

{15, 440, 16}

Matrixform[{{15}, {440}, {16}}]

**Matrixform[{15, 440, 16}]**

Matrixform[{15, 440, 16}]

**x = LinearSolve[a, b]**

$\left\{ \left\{ \frac{489}{88} \right\}, \left\{ -\frac{29}{8} \right\}, \left\{ \frac{43}{88} \right\} \right\}$

**Askisi2**

**a1 = {{1, -1, 2}, {21, 1, 5}, {1, 11, 6}}**

{{1, -1, 2}, {21, 1, 5}, {1, 11, 6}}

**2**

**b1 = 1 + k**

**3**

{{2}, {1 + k}, {3}}

**x1 = LinearSolve[a1, b1]**

$\left\{ \left\{ \frac{1}{76} (-13 + 4 k) \right\}, \left\{ \frac{1}{532} (-127 + 4 k) \right\}, \left\{ \frac{1}{266} (257 - 6 k) \right\} \right\}$

**Askisi3**

**a3 =  $\begin{pmatrix} 1 & 2 \\ -2 & -3 \end{pmatrix}$**

{{1, 2}, {-2, -3}}

**b3 = Transpose[a3]**

{{1, -2}, {2, -3}}

**b4 = Inverse[a3]**

{{-3, -2}, {2, 1}}

**Askisi4**

$$\mathbf{a4} = \begin{pmatrix} 2 & 1 & 3 \\ 1 & 1 & 2 \\ 2 & 1 & 2 \end{pmatrix}$$

$$\{\{2, 1, 3\}, \{1, 1, 2\}, \{2, 1, 2\}\}$$

$$\{\{2, 1, 3\}, \{1, 1, 2\}, \{2, 1, 1\}\}$$

$$\mathbf{b4} = \begin{pmatrix} -1 \\ 2 \\ 1 \end{pmatrix}$$

$$\{\{2, 1, 3\}, \{1, 1, 2\}, \{2, 1, 1\}\}$$

$$\{\{-1\}, \{2\}, \{1\}\}$$

$$\mathbf{x4} = \text{LinearSolve}[\mathbf{a4}, \mathbf{b4}]$$

$$\{\{-1\}, \{7\}, \{-2\}\}$$

$$\mathbf{a4a} = \begin{pmatrix} 2 & 1 & 3 \\ 4 & 2 & -1 \\ 6 & 3 & 2 \end{pmatrix}$$

$$\{\{-1\}, \{7\}, \{-2\}\}$$

$$\{\{2, 1, 3\}, \{4, 2, -1\}, \{6, 3, 2\}\}$$

$$\mathbf{b4a} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

$$\{\{0\}, \{0\}, \{0\}\}$$

$$\mathbf{x4a} = \text{LinearSolve}[\mathbf{a4a}, \mathbf{b4a}]$$

$$\{\{0\}, \{0\}, \{0\}\}$$

$$\mathbf{a4b} = \begin{pmatrix} 1 & 2 & 3 \\ 1 & 3 & 2 \\ 1 & 3 & 1+3 \end{pmatrix}$$

$$\{\{0\}, \{0\}, \{0\}\}$$

$$\{\{1, 2, 3\}, \{1, 3, 2\}, \{1, 3, 3+1\}\}$$

$$\mathbf{b4b} = \begin{pmatrix} -2 \\ -1 \\ 2-k \end{pmatrix}$$

$$\{\{-2\}, \{-1\}, \{2-k\}\}$$

$$\mathbf{x4b} = \text{LinearSolve}[\mathbf{a4b}, \mathbf{b4b}]$$

$$\left\{ \left\{ \frac{-19+5k-4}{1+1} \right\}, \left\{ \frac{4-k+1}{1+1} \right\}, \left\{ \frac{3-k}{1+1} \right\} \right\}$$

**Askisi 6**

$$\mathbf{a6} = \begin{pmatrix} 1 & -4 & 7 \\ -2 & 5 & 8 \\ 3 & 6 & -9 \end{pmatrix}$$

$\{\{1, -4, 7\}, \{-2, 5, 8\}, \{3, 6, -9\}\}$

**Transpose[a6] // MatrixForm**

$$\begin{pmatrix} 1 & -2 & 3 \\ -4 & 5 & 6 \\ 7 & 8 & -9 \end{pmatrix}$$

**Inverse[a6] // MatrixForm**

$$\begin{pmatrix} \frac{31}{102} & -\frac{1}{51} & \frac{67}{306} \\ -\frac{1}{51} & \frac{5}{51} & \frac{11}{153} \\ \frac{3}{34} & \frac{1}{17} & \frac{1}{102} \end{pmatrix}$$