

Cevaplar - 4

$$1. \text{ a)} |A| = 2 \begin{vmatrix} 1 & -1 \\ 0 & 0 \end{vmatrix} - 1 \begin{vmatrix} 1 & -1 \\ 1 & 0 \end{vmatrix} + (-1) \begin{vmatrix} 1 & 1 \\ 1 & 0 \end{vmatrix} = 0, \quad 1. \text{ b)} |A| = 1 \begin{vmatrix} 1 & -1 \\ 1 & -1 \end{vmatrix} = 0,$$

$$1. \text{ c)} |A| = \begin{vmatrix} 2 & 1 & -1 \\ 1 & 1 & -1 \\ 1 & 0 & 0 \end{vmatrix} \begin{vmatrix} 2 & 1 \\ 1 & 1 \\ 1 & 0 \end{vmatrix}, \quad |A| = 0 + (-1) + 0 - ((-1) + 0 + 0) = 0.$$

2. a) 5, 2. b) -1, 2. c) 0, 2. c) 24, 2. d) 1, 2. e) 6, 2. f) 10.

3. Önceki soruda c) şıkkındaki matris dışında tüm matrisler tersinir ve tersleri aşağıdaki gibidir:

$$2. \text{ a)} \begin{bmatrix} 3/5 & 1/5 \\ -2/5 & 1/5 \end{bmatrix}, \quad 2. \text{ b)} \begin{bmatrix} -3 & 8 \\ 2 & -5 \end{bmatrix}, \quad 2. \text{ c)} \begin{bmatrix} -6/24 & 8/24 & -28/24 \\ -15/24 & 12/24 & -66/24 \\ 6/24 & 0 & -12/24 \end{bmatrix},$$

$$2. \text{ d)} \begin{bmatrix} -2 & -1 & 6 \\ 2 & 1 & -5 \\ 1 & 1 & -3 \end{bmatrix}, \quad 2. \text{ e)} \begin{bmatrix} 4/6 & -2/6 & 2/6 \\ 4/6 & -5/6 & 2/6 \\ 2/6 & 2/6 & -2/6 \end{bmatrix}.$$

4. a) {(1,-2)}, 4. b) {(39,-26,5)}, 4. c) {(22,-15,3)}, 4. c) {(6,4,1)}, 4. d) {(1,0,-1)},
4. e) {(15,21,2)}.

5. a) 0.4 TL lik T ve 0.2 TL lik E, 5. b) 0.2 TL lik T ve 0.1 TL lik E,

$$5. \text{ c)} I - M = \begin{bmatrix} 0.6 & -0.2 \\ -0.2 & 0.9 \end{bmatrix}, \quad (I - M)^{-1} = \begin{bmatrix} 1.8 & 0.4 \\ 0.4 & 1.2 \end{bmatrix}, \quad 5. \text{ c)} 1020 \text{ TL lik T, } 560 \text{ TL lik E.}$$

$$6. \text{ a)} X = \begin{bmatrix} 24 \\ 46 \end{bmatrix}. \quad 7. \text{ a)} X = \begin{bmatrix} 38.6 \\ 18 \\ 17.4 \end{bmatrix} \quad 7. \text{ b)} X = \begin{bmatrix} 36.5 \\ 35 \\ 28.5 \end{bmatrix}$$

9. İn çıktısı, Ma çıktısının %75 i olmalı .

11. 28 milyon TL lik kömür, 26 milyon TL lik çelik.

12. 53 milyon TL lik elektrik, 27 milyon TL lik doğal gaz, 40 milyon TL lik petrol.