

b) TOP

$$\frac{T(s)}{N(s)} = \frac{-1,8(s-1)}{(s^2+5,2s+5)(s-1)} = \frac{N_p(s)}{D_p(s)}$$

$\deg D_p(s) = 2 < 2n-1 = 3 \Rightarrow$ choose $E(s) = s+8$
 such that $\deg D_p(s) E(s) = 3 = 2n-1$ rasgele
bir deger

Thus $L(s) = N_p(s) E(s) = -1,8(s+8)$

$$\Rightarrow D_p(s) E(s) = (s^2+5,2s+5)(s+8) = 40 + 46,6s + 13,2s^2 + s^3 = F(s)$$

$$\begin{bmatrix} -4 & -1 & 0 & 0 \\ 0 & 1 & -4 & -1 \\ 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix} \begin{bmatrix} A_0 \\ M_0 \\ A_1 \\ M_1 \end{bmatrix} = \begin{bmatrix} 40 \\ 46,6 \\ 13,2 \\ 1 \end{bmatrix} \Rightarrow \begin{matrix} A_0 = -34,6 & A_1 = 1 \\ M_0 = 98,4 & M_1 = 47,8 \end{matrix}$$

Thus,

$$C(s) = \begin{bmatrix} \frac{L(s)}{A(s)} & -\frac{M(s)}{A(s)} \end{bmatrix} = \begin{bmatrix} \frac{-1,8(s+8)}{s-34,6} & -\frac{47,8s+98,4}{s-34,6} \end{bmatrix}$$