

$$\lambda I_3 - A = \left[\begin{array}{ccc|ccc} \lambda+2 & 0 & 0 & & & \\ \hline 0 & \lambda & -1 & & & \\ 0 & 6 & \lambda+4 & & & \end{array} \right] \quad \begin{array}{l} \text{p. 9} \\ 22610 \\ 10/18/20 \end{array}$$

$$(\lambda I_3 - A)^{-1} D(\lambda) = \left[\begin{array}{ccc|ccc} \lambda^2+4\lambda+6 & 0 & 0 & & & \\ \hline 0 & (\lambda+2)(\lambda+4) & \lambda+2 & & & \\ 0 & -6(\lambda+2) & \lambda(\lambda+2) & & & \end{array} \right]$$

$$(\lambda I_3 - A)^{-1} = \left[\begin{array}{ccc|ccc} \frac{1}{\lambda+2} & 0 & 0 & & & \\ \hline 0 & \frac{\lambda+4}{\lambda^2+4\lambda+6} & \frac{1}{\lambda^2+4\lambda+6} & & & \\ 0 & \frac{-6}{\lambda^2+4\lambda+6} & \frac{\lambda}{\lambda^2+4\lambda+6} & & & \end{array} \right]$$

$$T(\lambda) = [\lambda_1, \lambda_2, \lambda_3] \quad \text{,,} \quad \left[\begin{array}{c} 1 \\ 0 \\ 1 \end{array} \right]$$

$$= \frac{\lambda_1}{\lambda+2} + \frac{\lambda_2 + \lambda_3 \lambda}{\lambda^2 + 4\lambda + 6} = \frac{-\frac{1}{2}}{\lambda+2} + \frac{\frac{1}{2}\lambda+4}{\lambda^2+4\lambda+6}$$