1)

$$\frac{d}{dt}\begin{pmatrix} \alpha'(t) \\ \alpha(t) \\ y'(t) \\ y(t) \\ 1 \end{pmatrix} = \begin{pmatrix} 0 & 0 & B & 0 & E\alpha \\ 1 & 0 & 0 & 0 & 0 \\ -B & 0 & 0 & 0 & Ey \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} \alpha'(t) \\ \alpha(t) \\ y'(t) \\ y(t) \\ 1 \end{pmatrix}$$

$$e^{A} \cdot y_0^{-1} = \begin{pmatrix} V\alpha_0 \\ \alpha_0 \\ V y_0 \\ y_0 \\ 1 \end{pmatrix}$$

pakde ede en vierde resultaat.

ii) zie Maple