c) Charakteristisches System

$$\gamma_1' = \gamma_1 \qquad \gamma_1 = c_1 e^s$$
$$\gamma_2' = \gamma_2 \quad \Rightarrow \quad \gamma_2 = c_2 e^s$$
$$\gamma_3' = \frac{\gamma_1}{\gamma_2} \qquad \gamma_3 = \frac{c_1}{c_2} s + c_3$$

Anfangswerte:

$$c_1 = t \qquad x = te^s$$
$$c_2 = 1 \quad \Rightarrow \quad y = e^s$$
$$c_3 = h(t) \qquad u = ts + h(t)$$

Auflösen:

$$t = \frac{x}{y}, \quad s = \ln y$$

Einsetzen:

$$u = \frac{x}{y} \ln y + h\left(\frac{x}{y}\right)$$