LÖSUNG ZU 270:
b)

$y'(t) = 2 \cdot (8 - y(t))$ $\quad y(3) = 1$

$\frac{dy}{dt} = 2 \cdot (8 - y)$

$\frac{1}{8-y} dy = 2\, dt$

$\int \frac{1}{8-y} dy = \int 2\, dt$

$-\ln(8 - y) = 2t + C$

$8 - y = e^{-2t - C} = e^{-2t} \cdot C_1$

$y = 8 - e^{-2t} \cdot C_1$

$y(3) = 8 - e^{-6} \cdot C_1 = 1 \quad \rightarrow \quad C_1 = \frac{7}{e^{-6}} = 7 \cdot e^6$

$y(t) = 8 - e^{-2t} \cdot 7 \cdot e^6$